# SHARP SERVICE MANUAL

No. 00ZUX340L/SME

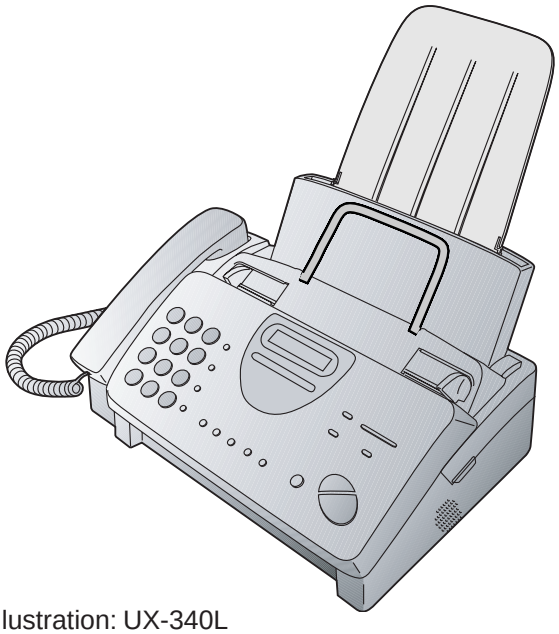


Illustration: UX-340L

# FACSIMILE

# UX-340L
# UX-345L
# MODEL UX-330L

CONTENTS



Parts marked with "⚠" is important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

## CAUTION FOR BATTERY REPLACEMENT

(Danish) ADVARSEL !
Lithiumbatteri-Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandoren.

(English) Caution !
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type
recommended by the equipment manufacturer.
Discard used batteries according to manufacturer's
instructions.

(Finnish) VAROITUS
Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden
mukaisesti.

(French) ATTENTION
Il y a danger d'explosion s' il y a remplacement incorrect
de la batterie. Remplacer uniquement avec une batterie du
même type ou d'un type recommandé par le constructeur.
Mettre au rébut les batteries usagées conformément aux
instructions du fabricant.

(Swedish) VARNING
Explosionsfare vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent
typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens
instruktion.

(German) Achtung
Explosionsgefahr bei Verwendung inkorrekter Batterien.
Als Ersatzbatterien dürfen nur Batterien vom gleichen Typ oder
vom Hersteller empfohlene Batterien verwendet werden.
Entsorgung der gebrauchten Batterien nur nach den vom
Hersteller angegebenen Anweisungen.

# CHAPTER 1. GENERAL DESCRIPTION

## [1] Specifications

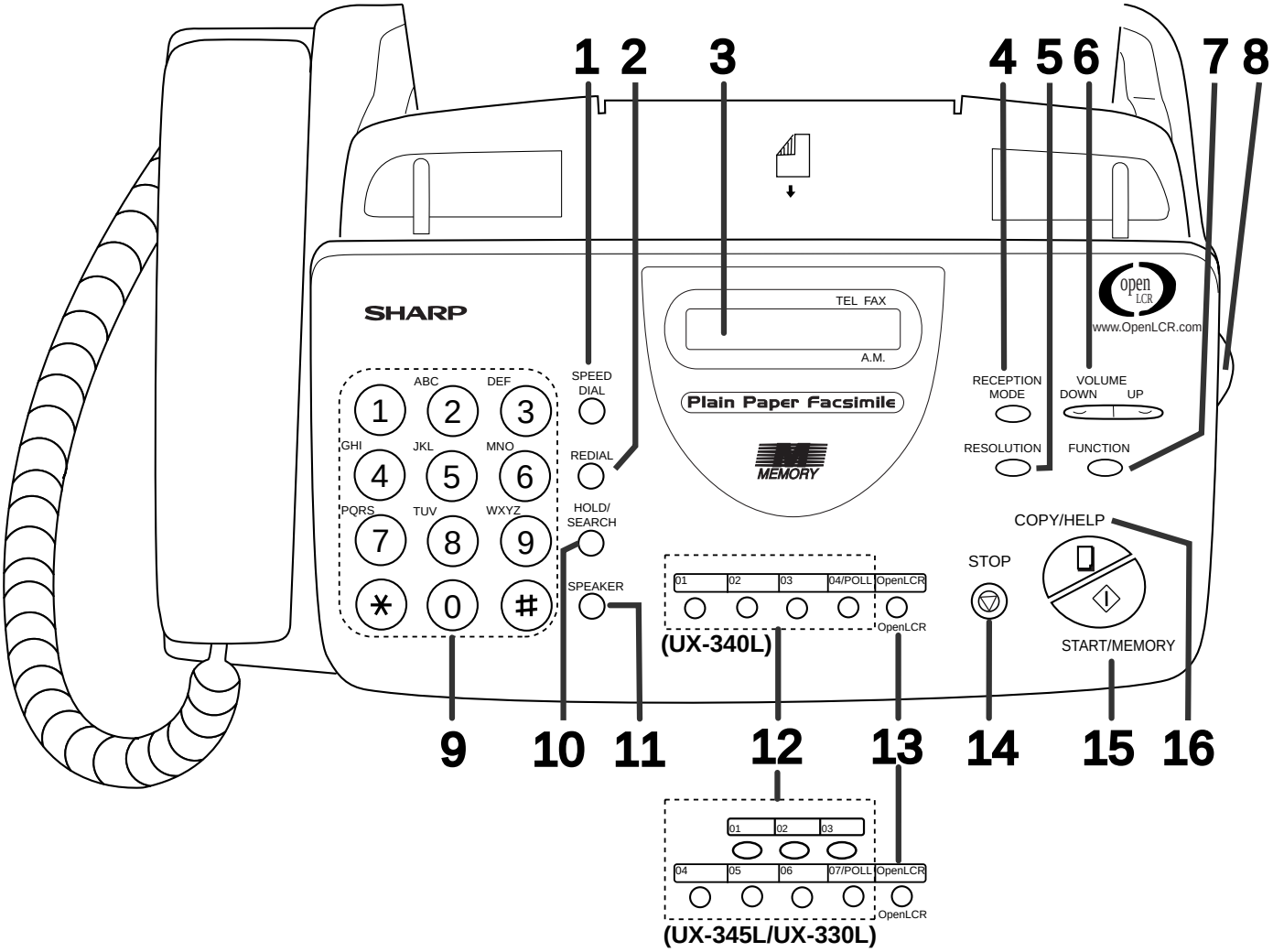
| | |
|---|---|
| **Automatic dialing: (UX-340)** | Rapid Key Dialing: 4 numbers<br>Speed Dialing: 40 numbers |
| **Automatic dialing: (UX-345)** | Rapid Key Dialing: 7 numbers<br>Speed Dialing: 80 numbers |
| **Imaging film:** | **Initial starter roll** (included with fax machine): 32 ft. (10 m)(approx. 30 letter-size pages)<br>**Replacement roll:**<br>**UX-3CR** 98 ft. (30 m) roll (two rolls in package, one roll yields approx. 100 letter-size pages) |
| **Memory size* :** | 476 KB (approx. 27 average pages) |
| **Modem speed:** | 9600 bps with automatic fallback to lower speed |
| **Transmission time* :** | Approx. 15 seconds |
| **Resolution:** | Horizontal:<br>203 pels/inch (8 dots/mm)<br>Vertical:<br>Standard: 98 lines/inch (3.85 lines/mm)<br>Fine/Halftone: 196 lines/inch (7.7 lines/mm)<br>Super fine: 391 lines/inch (15.4 lines/mm) |
| **Automatic document feeder:** | 10 sheets max. (20 lb paper) |
| **Recording system:** | Thermal transfer recording |
| **Halftone (grayscale):** | 64 levels |
| **Display:** | 16-digit LCD display |
| **Paper tray capacity: (16-to 20-lb. paper)** | Letter: 60 sheets<br>Legal: 30 sheets |
| **Compression scheme:** | MH, MR, Sharp(H2) |
| **Applicable telephone line:** | Public switched telephone network |
| **Compatibility:** | ITU-T (CCITT) G3 mode |
| **Input document size:** | Automatic feeding:<br>Width — 5.8 to 8.5" (148 to 216 mm)<br>Length — 5.5 to 11" (140 to 279 mm)<br>Manual feeding:<br>Width — 5.8 to 8.5" (148 to 216 mm)<br>Length — 5.5 to 23.6" (140 to 600 mm) |
| **Effective scanning width:** | 8.3" (210 mm) max. |
| **Effective printing width:** | 8.3" (210 mm) max. |
| **Contrast control:** | Automatic/Dark selectable |
| **Reception modes:** | TEL/FAX/A.M. (Note: A.M. mode is for connecting an answering machine) |
| **Copy function:** | Single/Multi/Sort (99 copies/page) |
| **Telephone function:** | Yes<br>(cannot be used if power fails) |
| **Power requirements:** | 120 V AC, 60 Hz |
| **Operating temperature:** | 41 to 95°F (5 to 35°C) |
| **Humidity:** | Maximum: 85 % |
| **Power consumption:** | Stand-by: 4.2 W<br>Maximum: 100 W |
| **Dimensions:** | Width: 13.5" (343 mm)<br>Depth: 10.1" (256 mm)<br>Height: 7.2" (182 mm) |
| **Weight:** | Approx. 7.3 lbs. (3.3 kg) |

* Based on ITU-T (CCITT) Test Chart #1 at standard resolution in Sharp special mode, excluding time for protocol signals (i.e., ITU-T phase C time only).

**Note:** The facsimile machine is Year 2000 compliant.

As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for procduct improvement without prior notice. The performance specifications figures indicated are nominal values of production units. There may be some deviation from these values in individual units.

## [2] Operation panel




**1. SPEED DIAL key**
Press this key to dial a fax or voice number using an abbreviated 2-digit Speed Dial number.

**2. REDIAL key**
Press this key to automatically redial the last number dialed.

**3. Display**
This displays messages and prompts during operation and programming.

**4. RECEPTION MODE key**
Press this key to select the reception mode. An arrow in the display will point to the currently selected reception mode.

**5. RESOLUTION key**
Press this key to adjust the resolution for faxing or copying.

**6. VOLUME keys**
Press these keys to adjust the volume of the speaker when the **SPEAKER** key has been pressed, the volume of the handset when the handset is lifted, or the volume of the ringer at all other times.

**7. FUNCTION key**
Press this key to select various special functions.

**8. Panel release**
Grasp this finger hold and pull toward you to open the operation panel.

**9. Number keys**
Use these keys to dial numbers, and enter numbers and letters when storing auto-dial numbers.

**10. HOLD/SEARCH key**
Press this key to search for an auto-dial number, or, during a phone conversation, press this key to put the other party on hold.

**11. SPEAKER key**
Press this key to listen to the line and fax tones through the speaker when faxing a document.
Note: **This is not a speakerphone.** You must pick up the handset to talk with the other party.

**12. Rapid Dial keys**
Press one of these keys to dial a fax number automatically.

**13. Open LCR key**
Press this key to register for Open LCR service and receive carrier rate data to your fax.

**14. STOP key**
Press this key to cancel operations before they are completed.

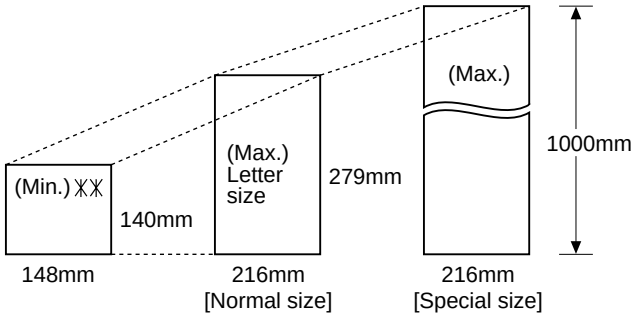
**15. START/MEMORY key**
Press this key to begin transmission when using Speed Dialing, Direct Keypad Dialing, or Normal Dialing.

**16. COPY/HELP key**
When a document is in the feeder, press this key to make a copy of a document. At any other time, press this key to print out the Help List, a quick reference guide to the opeation of your fax machine.

# [3] Transmittable documents

## 1. Document Sizes

| | | |
|---|---|---|
| Normal size | width | 5.8" – 8.5"(148 – 216 mm) |
| | length | 5.5" – 11"(140 – 279 mm) |




※※ Use document carrier sheet for smaller documents.

* With special sizes, only one sheet can be fed into the machine at a time. Insert next page into feeder as current page is being scanned.

## 2. Paper Thickness & Weight

| | 4x6 series (788mm x 1091mm x 1000mm sheets) | | Square meter series | |
|---|---|---|---|---|
| | Minimum | Maximum | Minimum | Maximum |
| Feeder capacity | 10 sheets, max. | | | |
| Paper weight | 45kg | 64.3kg | 52g/m$^2$ | 74.3g/m$^2$ |
| Paper thickness (ref.) | 0.06mm | 0.09mm | 0.06mm | 0.09mm |
| Paper size | B6 (128mm x 182mm) ~ A4 (210mm x 297mm), Letter (216mm x 279mm) | | | |

## 3. Document Types

- Normal paper

  Documents handwritten in pencil (No. 2 lead or softer), fountain pen, ball-point pen, or felt-tipped pen can be transmitted.

  Documents of normal contrast duplicated by a copying machine can also be transmitted.
- Diazo copy (blue print)

  Diazo copy documents of a normal contrast may be transmitted.
- Carbon copy

  A carbon copy may be transmitted if its contrast is normal.

## 4. Cautions on Transmitting Documents

- Documents written in yellow, greenish yellow, or light blue ink cannot be transmitted.
- Ink, glue, and correcting fluid on documents must be dry before the documents can be transmitted.
- All clips, staples and pins must be removed from documents before transmission.
- Patched (taped) documents should be copied first on a copier and then the copies used for transmission.
- All documents should be fanned before insertion into the feeder to prevent possible double feeds.

## 5. Automatic Document Feeder Capacity

Number of pages that can be placed into the feeder at anytime is as follows:

Normal size: max. ADF 10 sheets

Special size: single sheet only (manual feed)

NOTES:
- When you need to send or copy more pages than the feeder limit, place additional pages in feeder when last page in feeder is being scanned.
- Place additional pages carefully and gently in feeder. If force is used, double-feeding or a document jam may result.

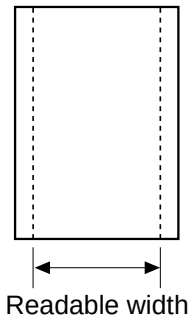
## 6. Readable Width & Length

The readable width and length of a document are slightly smaller than the actual document size.

Note that characters or graphics outside the effective document scanning range will not be read.

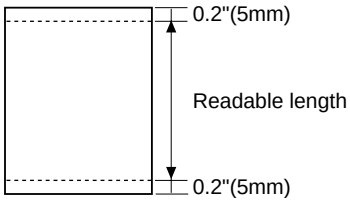
- **Readable width**

8.3" (210mm), max.




- **Readable length**

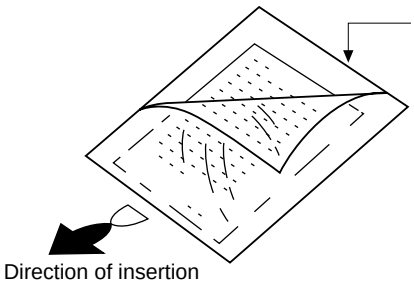
This is the length of the document sent minus 0.2" (5mm) from the top and bottom edges.



### 7. Use of Document Carrier Sheet

A document carrier sheet must be used for the following documents.

- Those with tears.
- Those smaller than size 5.8" (W) x 5.5" (L) (148mm (W) x 140mm (L)).
- Carbon-backed documents




NOTE: To transmit a carbon-backed document, insert a white sheet of paper between the carbon back of the document and the document carrier.

- Those containing an easily separable writing substance (e.g., tracing paper written on with a soft, heavy lead pencil).

NOTES:
- When using the document carrier, carefully read the instructions written on the back.
- If the document carrier is dirty, clean it with a soft, moist cloth, and then dry it before using for transmission.
- Do not place more than one document in the carrier at a time.

## [4] Installation

### 1. Site selection

Take the following points into consideration when selecting a site for this model.

**ENVIRONMENT**

- The machine must be installed on a level surface.
- Keep the machine away from air conditioners, heaters, direct sunlight, and dust.
- Provide easy access to the front, back, and sides of the machine. In particular, keep the area in front of the machine clear, or the original document may jam as it comes out after scanning.
- The temperature should be between 5° and 35°C.
- The humidity should be between 30% and 85% (without condensation).

**ELECTRICITY**

AC 120V, 60Hz, grounded(3-prong) AC outlet is required.

**Caution!**

- Connection to a power source other than that specified will cause damage to the equipment and is not covered under the warranty.
- If your area experiences a high incidence of lightning or power surges, we recommend that you install a surge protector for the power and telephone lines. Surge protectors can be purchased at most telephone specialty stores.

**If the machine is moved from a cold to a warm place...**

Condensation may form on the reading glass if machine is moved from a cold to a warm place, this will prevent proper scanning of documents for transmission. Turn on the power and wait approximately 2 hours before using machine.

**TELEPHONE JACK**

A standard telephone jack must be located near the machine.
This is the telephone jack commonly used in most homes and offices.

- Plugging the fax machine into a jack which is not telephone jack may result in damage to the machine or your telephone system. If you do not know what kind of jack you have, or need to have one installed, contact the telephone company.

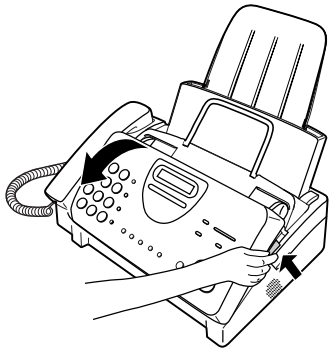
### 2. Loading the imaging film (UX-3CR)

Your fax uses a roll of imaging film to create printed text and images. The print head in the fax applies heat to the imaging film to transfer ink to the paper. Follow the steps below to load or replace the film.

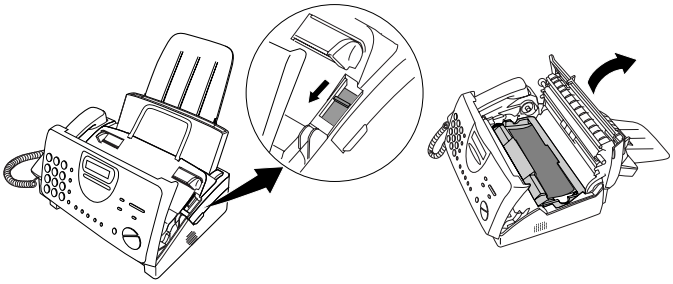
- The initial starter roll of imaging film included with your fax can print about 30 letter-size pages.
- When replacing the film, use a roll of Sharp UX-3CR imaging film. One roll can print about 100 letter-size pages.

**Note:** If there is paper in the paper tray, pull the paper release plate forward and remove the paper before loading the imaging film.

① Open the operation panel by grasping the finger hold and pulling up.

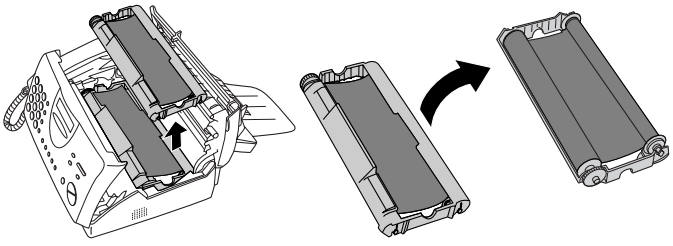


② Pull the green release on the right side of the machine forward, and open the print compartment cover.

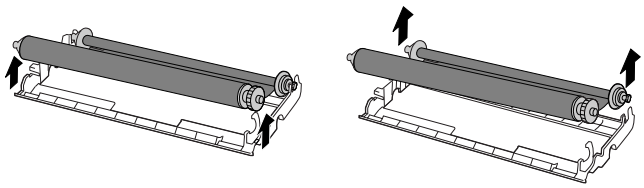


**If you are installing the imaging film for the first time, go to Step 6.**

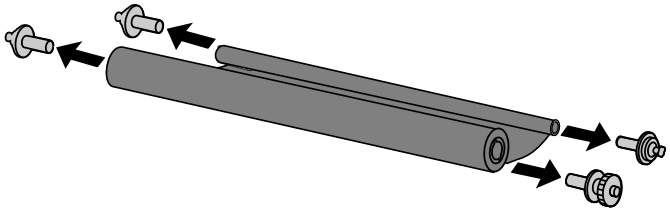
③ Remove the imaging film cartridge from the print compartment (grasp the handle at the front of the cartridge) and turn it over.



④ Remove the used film from the cartridge.

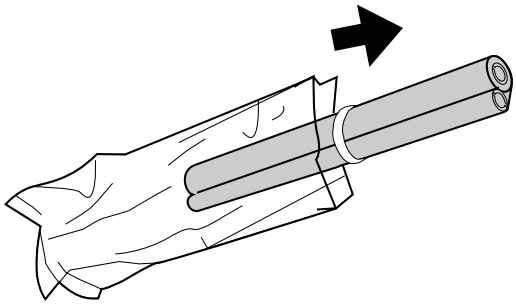


⑤ Remove the four green gears from the used film.
**DO NOT DISCARD THE FOUR GREEN GEARS!**



⑥ Remove the new roll of imaging film from its packaging.

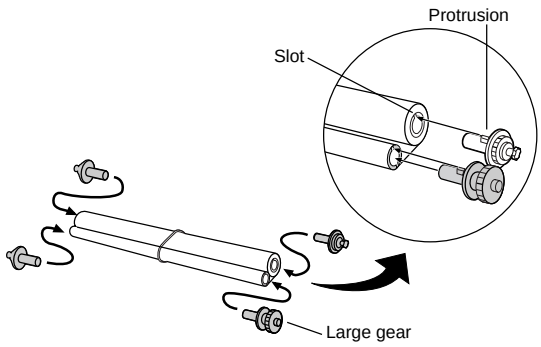
- Do not yet remove the band that holds the rolls together.



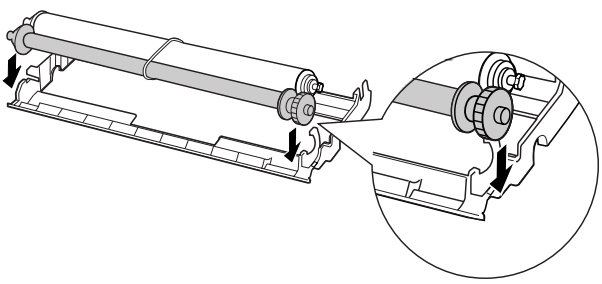
⑦ Insert the large gear into the green end of the empty spool. Make sure the two protrusions on the large gear fit firmly into the slots in the end of the spool.

Insert the remaining three gears into the spools, making sure the protrusion on each gear fits firmly into one of the slots in the end of each spool.

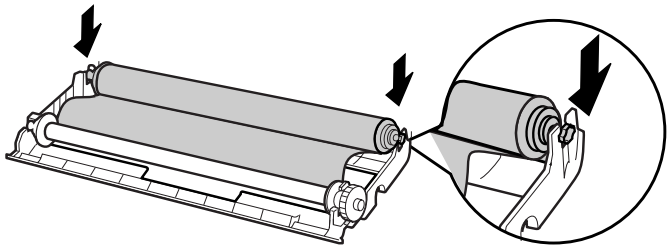
- If needed, pull the spools apart slightly to allow the gears to fit (the band will stretch).



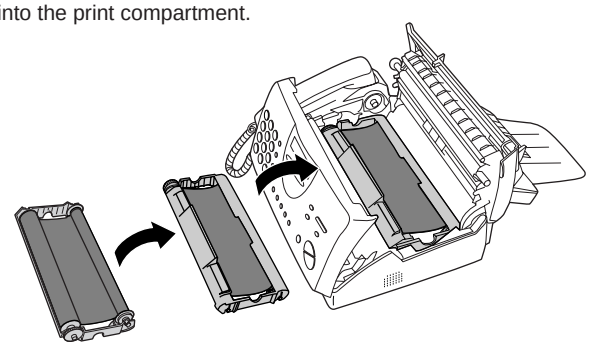

⑧ Insert the large gear into the large holder on the imaging film cartridge (make sure it clicks into place), and then insert the small gear on the other end of the spool into its holder.



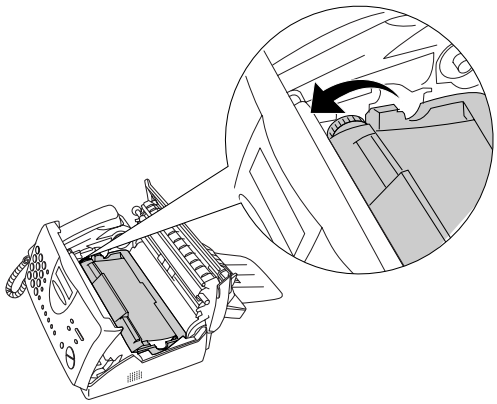
⑨ Cut the band that holds the two spools together. Unroll the film slightly and insert the small gears into their holders.



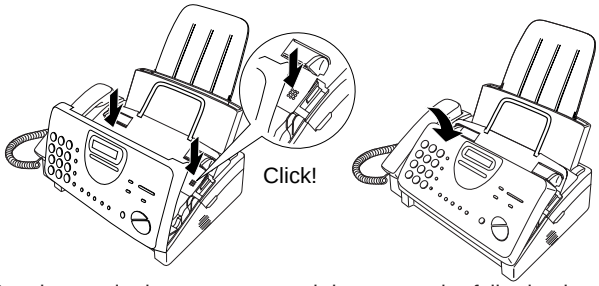
⑩ Turn the cartridge over, grasp the handle, and insert the cartridge into the print compartment.



⑪ Rotate the large gear toward you until the film is taut.



⑫ Close the print compartment cover (press down on both sides to make sure it clicks into place), and then close the operation panel.




⑬ Load paper in the paper tray and then press the following keys to initialize the film.

**Note:** Paper must be loaded before the film can be initialized. To load paper, see the following section, Loading the Printing Paper.


**When to replace the imaging film**

Replace the imaging film when the display shows:

| FILM END |
|---|

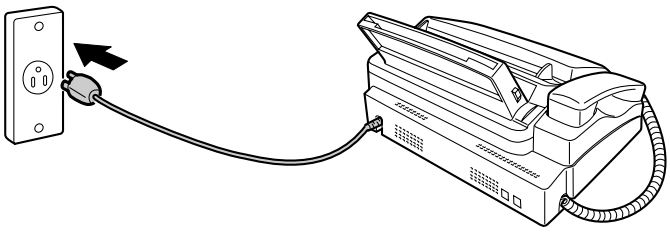
Use the following imaging film, which is available from your dealer or retailer: Sharp UX-3CR Imaging Film

## 3. Assembly and connections

① Plug the power cord into a 120V, 60Hz, grounded(3-prong) AC outlet.

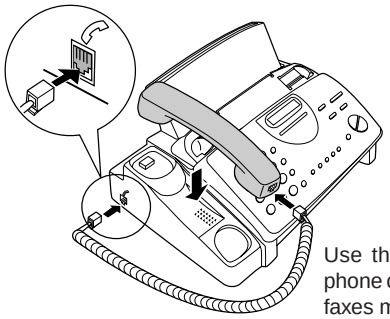
- **Caution**: Do not plug the power cord into any other kind of outlet. This will damage the machine and is not covered under the warranty.
- The machine does not have a power on/off switch, so the power is turned on and off by simply plugging in or unplugging the power cord.

**Note:** If your area experiences a high incidence of lightning or power surges, we recommend that you install surge protectors for the power and telephone lines. Surge protectors can be purchased at most telephone specialty stores.



② Connect the handset as shown and place it on the handset rest.

♦ The ends of the handset cord are identical, so they will go into either jack.

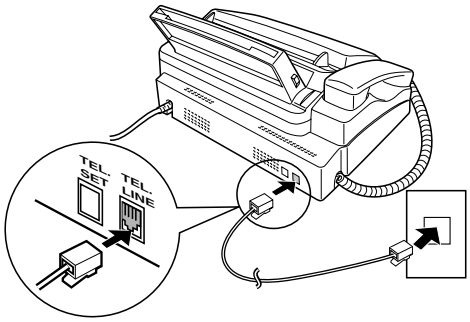


Make sure the handset cord goes into the jack marked with a handset symbol on the side of the machine!

Use the handset to make ordinary phone calls, or to transmit and receive faxes manually.

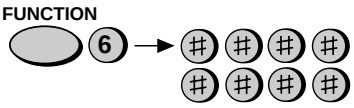
③ Insert one end of the line cord into the jack on the back of the machine marked **TEL.LINE**. Insert the other end into a standard (RJ11C) single-line wall telephone jack.

Be sure to insert the line cord into the **TEL.LINE** jack.
**Do not** insert into the **TEL.SET** jack.




**Note:** The fax machine is set for tone dialing. If you are on a pulse dial line, you must set the fax machine for pulse dialing.
Press the keys on the operation panel as follows:

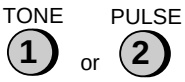
1. Press these keys:




The display will show:

| DIAL MODE |
|---|

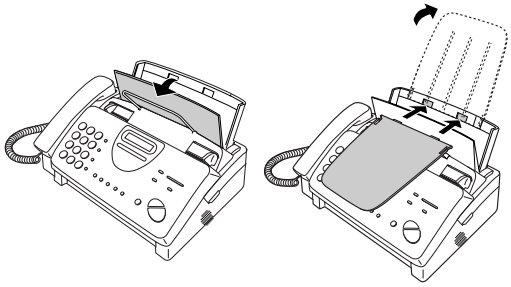
2. Press **1** to select tone dialing, or **2** to select pulse dialing.




3. Press the **STOP** key to return to the date and time display.

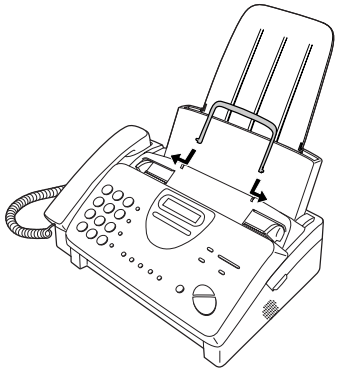

④ Attach the paper tray extension.

♦ Pull the paper release plate forward. Insert the paper tray extension horizontally into the notches in the paper tray. Rotate the paper tray extension up until it snaps into place.



⑤ Attach the original document support.

**Note:** The original document support has a top side and a bottom side. If you cannot insert the tabs on the support into the holes, turn the support over.

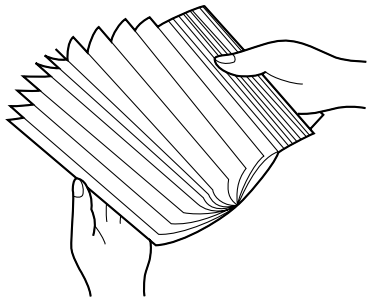


## 4. Loading printing paper

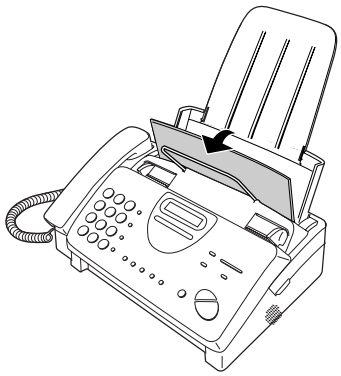
You can load letter or legal size paper in the paper tray. The maximum number of sheets depends on the weight and size of the paper you are loading.

- ♦ Paper from 16 to 20 lbs. (60 to 75 g/m$^2$):
  Letter size: 60 sheets  Legal size: 30 sheets
- ♦ Paper from 20 to 24 lbs. (75 to 90 g/m$^2$):
  Letter size: 50 sheets  Legal size: 25 sheets

① Fan the paper, and then tap the edge against a flat surface to even the stack.



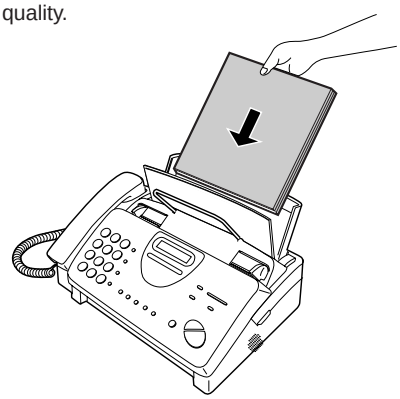
② Pull the paper release plate toward you.



③ Insert the stack of paper into the tray, **print side down**.

• If paper remains in the tray, take it out and combine it into a single stack with the new paper before adding the new paper.

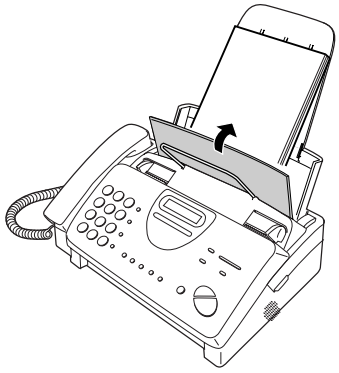
**Important:** Be sure to load the paper so that printing takes place on the **print** side of the paper. Printing on the reverse side may result in poor print quality.



④ Push the paper release plate back down.

• If the paper release plate is not pushed down, paper feed errors will result.

**Note:** When receiving faxes or copying documents, do not allow a large number of pages to accumulate in the output tray. This may obstruct the outlet and cause paper jams.



⑤ The fax has been set at the factory to scale the size of received faxes to letter size paper. If you have loaded legal paper, you must change the paper size setting to legal. Press these keys:

FUNCTION → 6 → ✳ ✳

The display will show: PAPER SIZE SET

Press **1** to select LETTER, **2** to select LEAGAL.

LETTER: 1 or LEAGAL: 2

The display will show: COPY CUT-OFF

Press the **STOP** key to return to the date and time display.

STOP

⑥ Your fax has been set at the factory to print at normal contrast.

Depending on the type of paper you have loaded, you may find that you obtain better print quality by changing the setting to LIGHT.

Press these keys: FUNCTION → 6 → ✳ ✳ ✳

The display will show: PRINT CONTRAST

Press **1** to select NORMAL or **2** to select LIGHT.

NORMAL: 1 or LIGHT: 2

The display will show: PAPER SIZE SET

Press the **STOP** key to return to the date and time display.

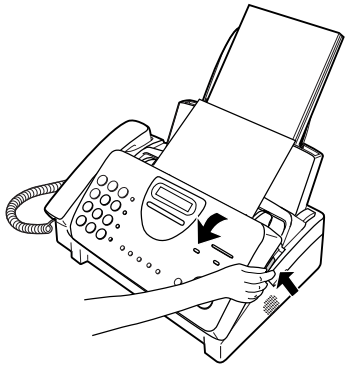
STOP

## 5. Clearing a jammed document

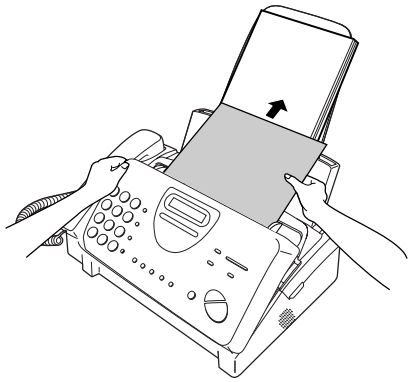
If the original document doesn't feed properly during transmission or copying, or DOCUMENT JAMMED appears in the display, first try pressing the **START/MEMORY** key. If the document doesn't feed out, open the operation panel and remove it.

**Important:**
Do not try to remove a document without opening the operation panel. This may damage the feeder mechanism.

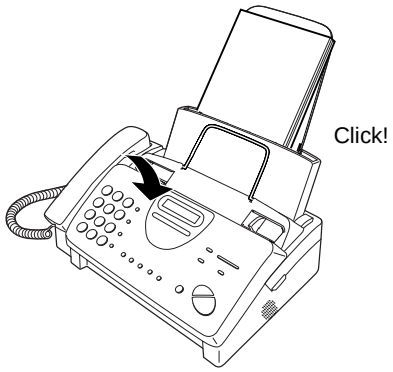
① Open the operation panel by grasping the finger hold and pulling up.



② Remove the document.

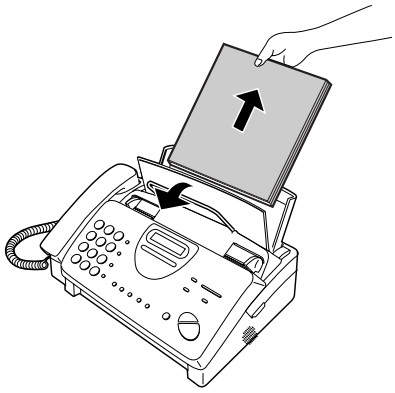


③ Close the operation panel, making sure it clicks into place.

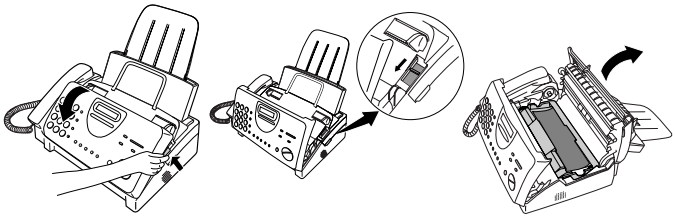


## 6. Clearing jammed printing paper

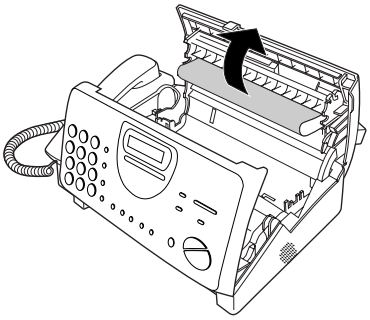
① Pull the paper release plate forward and remove the paper.



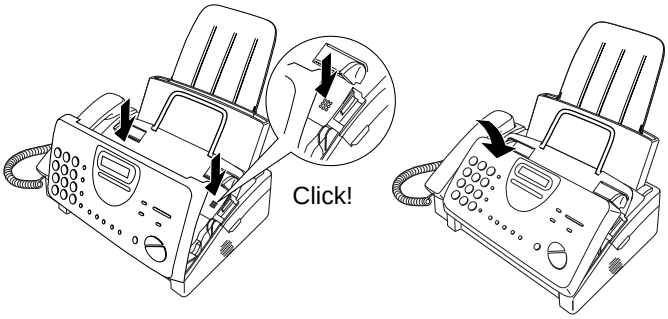
② Open the operation panel (grasp the finger hold and pull up), and then pull the release on the right side of the machine forward to open the print compartment cover.



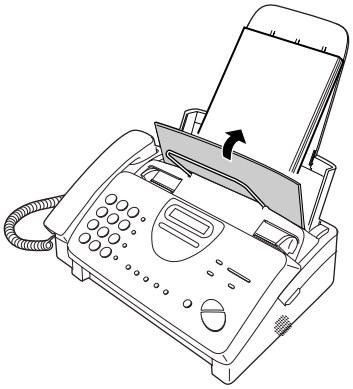
③ Gently pull the jammed paper out of the machine, making sure no torn pieces of paper remain in the print compartment or rollers.



④ Close the print compartment cover (press down on both sides to make sure it clicks into place), and then close the operation panel.




⑤ Reinsert the paper in the paper tray and push the paper release plate back down.



# [5] Quick reference guide

### *ENTERING YOUR NAME AND NUMBER*

1. Press: FUNCTION 3 # #

   Display shows: OWN NUMBER SET

2. Press: START/MEMORY
3. Enter your fax number (max. of 20 digits) by pressing the number keys.

- To insert a space between digits, press the # key.
- If you make a mistake, press the **SPEED DIAL** key to backspace and clear the mistake.

4. Press: START/MEMORY
5. Enter your name by pressing the appropriate number keys as shown below.

- To enter two letters in succession that require the same key, press the **SPEAKER** key after entering the first letter.

| | | |
|---|---|---|
| SPACE = 1 1 | J = 5 5 | T = 8 8 |
| A = 2 2 | K = 5 5 5 | U = 8 8 8 |
| B = 2 2 2 | L = 5 5 5 5 | V = 8 8 8 8 |
| C = 2 2 2 2 | M = 6 6 | W = 9 9 |
| D = 3 3 | N = 6 6 6 | X = 9 9 9 |
| E = 3 3 3 | O = 6 6 6 6 | Y = 9 9 9 9 |
| F = 3 3 3 3 | P = 7 7 | Z = 9 9 9 9 9 |
| G = 4 4 | Q = 7 7 7 | |
| H = 4 4 4 | R = 7 7 7 7 | |
| I = 4 4 4 4 | S = 7 7 7 7 7 | |

- To change case, press the **REDIAL** key.
  Press # or ✳ to scroll through symbols and special characters.

6. When finished, press: START/MEMORY STOP

### *SETTING THE DATE AND TIME*

1. Press: FUNCTION 3 ✳ ✳ ✳ ✳

   Display shows: DATE & TIME SET

2. Press: START/MEMORY
3. Enter two digits for the month (01 to 12).
4. Enter two digits for the day (01 to 31).
5. Enter four digits for the year (Ex: 2000).
6. Enter two digits for the hour (01 to 12) and two digits for the minute (00 to 59).
7. Press ✳ for A.M. or # for P.M.
8. When finished, press: START/MEMORY STOP

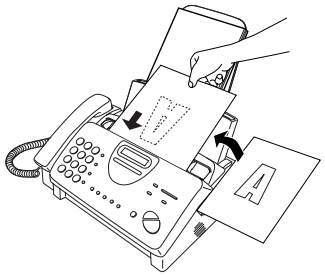
### *STORING AND CLEARING AUTO DIAL NUMBERS*

1. Press: FUNCTION 3 #

   Display shows: FAX/TEL # MODE

2. Press **1** to store a number or **2** to clear a number.
3. Enter a 2-digit Speed Dial number (from 01 to 04 for Rapid Key Dialing, or 05 to 44 for Speed Dialing). (If you are clearing a number, go to Step 7.)
4. Enter the full fax/telephone number.
5. Press: START/MEMORY
6. Enter the name of the location by pressing number keys (Refer to the letter entry table in *ENTERING YOUR NAME AND NUMBER*.)
7. Press: START/MEMORY STOP

### *SENDING FAXES*



Place your document (up to 10 pages) face down in the document feeder.

**Normal Dialing**

1. Lift the handset or press: SPEAKER
2. Dial the fax number.
3. Wait for the reception tone (if a person answers, ask them to press their Start key).
4. Press: START/MEMORY

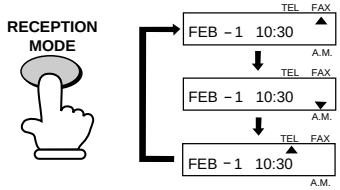
**Rapid Key Dialing**
Press the appropriate Rapid Key. Transmission will begin automatically.

**Speed Dialing**

1. Press: SPEED DIAL
2. Enter 2-digit Speed Dial number.
3. Press: START/MEMORY

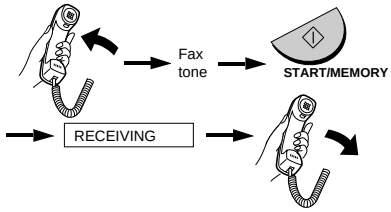
### *RECEIVING FAXES*

Press the **RECEPTION MODE** key until the arrow in the display points to the desired reception mode.




**FAX mode:** The fax automatically answers on four rings and receives the incoming document.

**TEL mode:**




**A.M. mode:** Select this mode when an answering machine is connected to the fax and the answering machine is turned on.

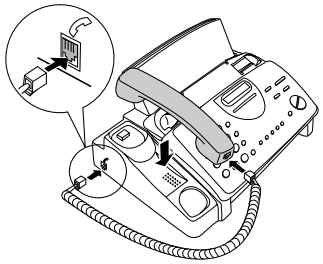
SHARP UX-340L (TCADZ2890XHZZ)
UX-345L (TCADZ2893XHZZ)
UX-330L (TCADZ2964XHZZ)

# [6]Quick Setup Guide

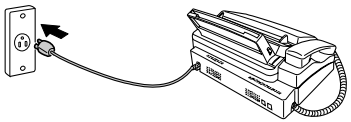
Be sure to perform each step in the order indicated.

Note: For detailed instructions, refer to the indicated pages of the operation manual.

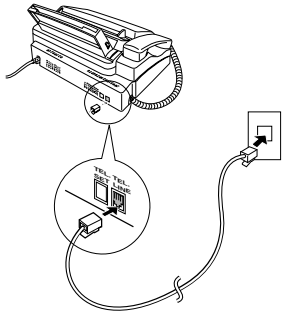
**1** Connect the handset and place it on the handset rest.



**2** Plug the power cord into a 120 V, 60 Hz, grounded (3-prong) AC outlet.

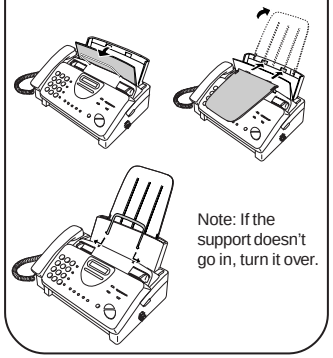


**3** Connect the telephone line cord to the **TEL. LINE** jack and a wall telephone jack.



Note: To connect an answering machine to the fax. To connect an extension phone.

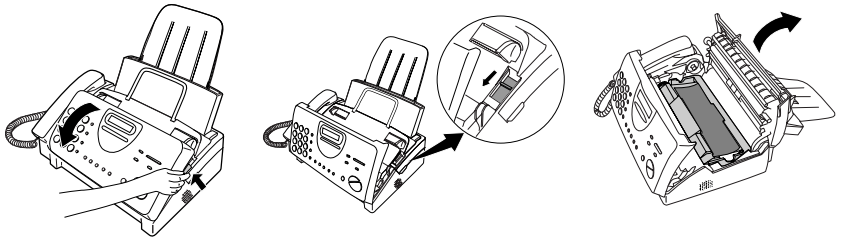
**4** Attach the supports.



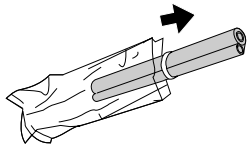
Note: If the support doesn't go in, turn it over.

**5** Load the imaging film.

1. Open the operation panel and then pull the green release forward to open the print compartment cover.

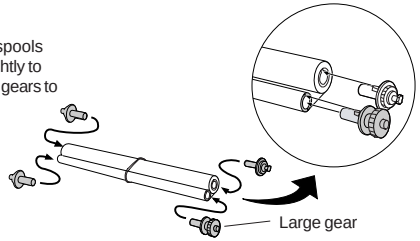


2. Remove the roll of imaging film from its packaging. (Note: Do not yet remove the band that holds the rolls together.)

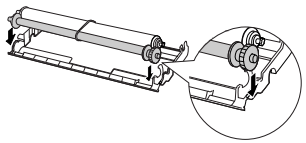


3. Insert the large gear into the green end of the empty spool. Insert the remaining three gears into the ends of the spools. (Make sure the protrusions on the gears fit into the slots in the spool ends.)
**IMPORTANT:** Do NOT discard green gears. They are not included with replacement imaging film.

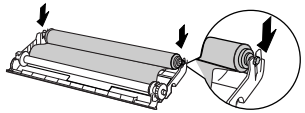
Pull the spools apart slightly to allow the gears to fit in.



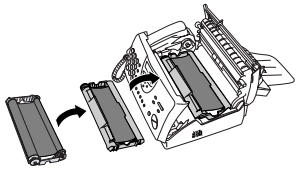

4. Insert the large gear into the large holder on the imaging film cartridge, and then insert the small gear on the other end of the spool into its holder.



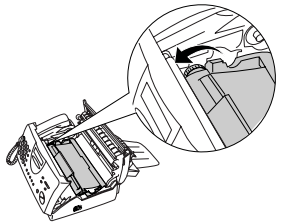
5. Cut the band that holds the two spools together. Unroll the film slightly and insert the small gears into their holders.



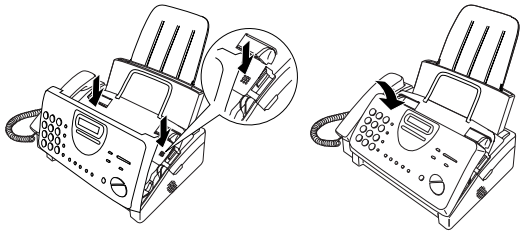
6. Turn the cartridge over and insert it into the print compartment.



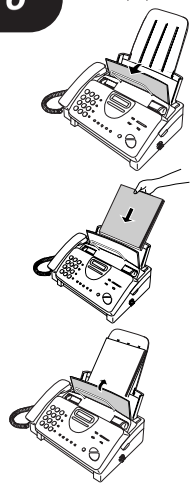
7. Rotate the large gear toward you until the film is taut.



8. Close the print compartment cover (press down on both sides to make sure it clicks into place), and then close the operation panel.



## 6 Load paper.



Insert the paper print side down.

Note: If you loaded legal paper, see page 23 to change the paper size setting to LEGAL.

## 7 Press the following keys to initialize the imaging film.

FUNCTION → 6 → #

Display shows: INITIALIZE FILM

→ START/MEMORY

## 8 Enter your name and fax number.

1. Press these keys on the operation panel: FUNCTION → 3 → # → #

2. Press: START/MEMORY

3. Enter your fax number by pressing the number keys.
   To insert a space between digits, press the # key.
   To clear a mistake, press the **SPEED DIAL** key.

Display shows: OWN NUMBER SET

4. Press: START/MEMORY

5. Enter your name by pressing the number keys as shown below.

| | | |
|---|---|---|
| A = 2 2 | J = 5 5 | S = 7 7 7 7 7 |
| B = 2 2 2 | K = 5 5 5 | T = 8 8 |
| C = 2 2 2 2 | L = 5 5 5 5 | U = 8 8 8 |
| D = 3 3 | M = 6 6 | V = 8 8 8 8 |
| E = 3 3 3 | N = 6 6 6 | W = 9 9 |
| F = 3 3 3 3 | O = 6 6 6 6 | X = 9 9 9 |
| G = 4 4 | P = 7 7 | Y = 9 9 9 9 |
| H = 4 4 4 | Q = 7 7 7 | Z = 9 9 9 9 9 |
| I = 4 4 4 4 | R = 7 7 7 7 | SPACE = 1 1 |

SHARP = 7 7 7 7 7 4 4 4 2 2 7 7 7 7 SPEAKER 7 7

Note: To enter two letters in succession that require the same key, press the SPEAKER key after entering the first letter. Example:

6. When finished, press: START/MEMORY then STOP

## 9 Set the date and time.

1. Press these keys on the operation panel: FUNCTION → 3 → ✳ → ✳ → ✳ → ✳

Display shows: DATE & TIME SET

2. Press: START/MEMORY

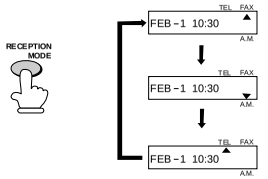
3. Enter two digits for the month (01 through 12).
   Enter two digits for the day (01 through 31).
   Enter four digits for the year (Example: 2000).
   Enter two digits for the hour (01 through 12).
   Enter two digits for the minute (00 through 59).

4. Press ✳ for A.M. or # for P.M.

5. When finished, press: START/MEMORY then STOP

## 10 Select the reception mode for incoming calls.

Press the **RECEPTION MODE** key until the arrow in the display points to the desired mode.



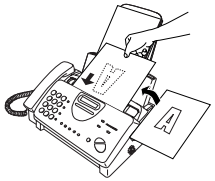

**FAX mode:** The fax machine automatically answers on four rings and receives the incoming document.

**TEL mode:** You must answer all calls, including faxes, by picking up the handset. If you hear a fax tone, press the **START/MEMORY** key to begin reception.

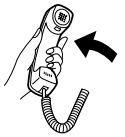
**A.M. mode:** Select this mode when an answering machine is connected to the fax and the answering machine is turned on.

## 11 How to send a fax

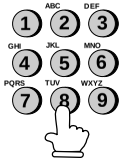
1. Insert your document (up to 10 pages) face down into the document feeder.



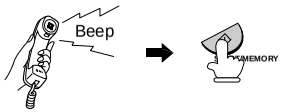
2. Pick up the handset and listen for the dial tone.



3. Dial the number of the receiving fax machine by pressing the number keys.




4. When you hear a fax tone, press the **START/MEMORY** key. (If a person answers, ask them to press their Start key to make their fax machine issue a fax tone.)

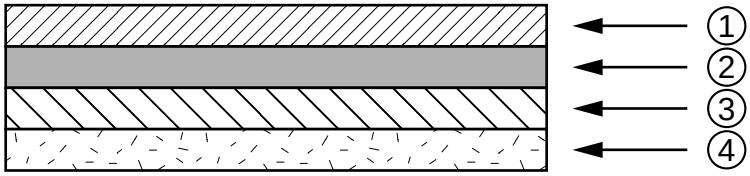



5. Replace the handset.

# [7] Option imaging film specifications (UX-3CR)

## 1. Structure

This article is composed of polyester film coated with heat-resistant layer, matt layer and hot melt ink layer, leader film and paper core. Ink film specification is "DNP standard ink film HC".




① Heat Resistant Layer
② Base Film
③ Matt Layer
④ Hot melt Ink Layer

## 2. Details of compositions

**2-1. Base film**

| Heading | Requirements | Measuring method |
|---|---|---|
| Material | Polyethylene-terephthalate | – |

**2-2. Heat resistant layer**

| Heading | Requirements | Measuring method |
|---|---|---|
| Grade | HR Mixer P-5 | – |

**2-3. Matt layer**

| Heading | Requirements | Measuring method |
|---|---|---|
| Grade | ML Sumi | – |

**2-4. Hot melt ink layer**

| Heading | Requirements | Measuring method |
|---|---|---|
| Grade | #507W | – |

# CHAPTER 2. ADJUSTMENTS

## [1] Adjustments

### General

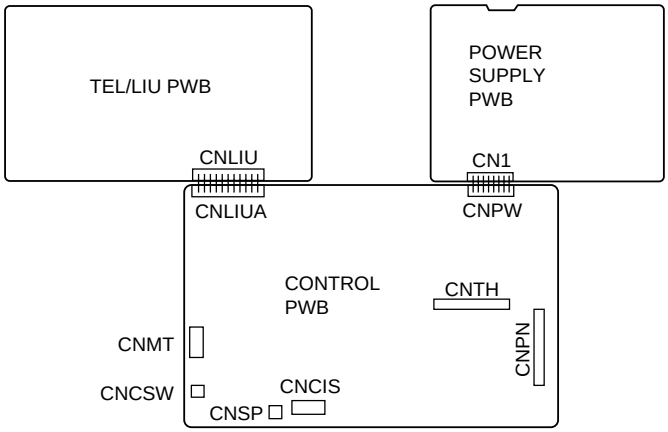
Since the following adjustments and settings are provided for this model, make adjustments and/or setup as necessary.

### 1. Adjustments

### Adjustments of output voltage (FACTORY ONLY)

1. Install the power supply unit in the machine.
2. Set the recording paper and document.
3. When the document is loaded, power is supplied to the output lines. Confirm that outputs are within the limits below.

### Output voltage settings



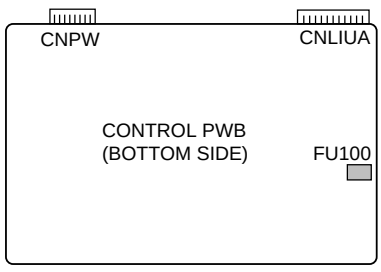

| Output | Voltage limits |
|---|---|
| +5V | 4.75V ~ 5.25V |
| +24V | 23.3V ~ 24.7V |

| Connector No. / Pin No. | CNPW |
|---|---|
| 1 | MG |
| 2 | MG |
| 3 | +24V |
| 4 | +24V |
| 5 | +24V |
| 6 | DG |
| 7 | +5V |
| 8 | DG |

### 2. IC protectors replacement

ICPs (IC Protectors) are installed to protect the motor driver circuit. ICPs protect various ICs and electronic circuits from an overcurrent condition.

The location of ICPs are shown below:




(1) FU100 (ICP-S07) is installed in order to protect IC's from an overcurrent generated in the motor drive circuit. If FU100 is open, replace it with a new one.

### 3. Settings

### (1) Dial mode selector

DIAL mode (Soft Switch No. SWB4 DATA No. 3)

(step 1) Select "OPTION SETTING".

KEY : [FUNCTION] (4)

DISPLAY: [OPTION SETTING] ⇔ [PRESS * OR #]

(step 2) Select "DIAL MODE".

KEY: Push (#) until " [DAIL MODE] " is indicated because the number of (#)s changes by the model.

Cursor
When initially registering, the mode shows 1=TONE. When registering again, the mode which was registered formerly is shown.

DISPLAY: [DIAL MODE] ⇔ [1=TONE, 2=PULSE]

(step 3) Select, using "1" or "2".

KEY: (1)

DISPLAY: [TONE SELECTED]

KEY: (2)

DISPLAY: [PULSE SELECTED]

(step 4) End, using the "STOP" key.

KEY: (▽) STOP

### 4. Volume adjustment

You can adjust the volume of the speaker and ringer using the **UP** and **DOWN** keys.

### (1) Speaker

①Press the **SPEAKER** key.

②Press the **UP** or **DOWN** key.

Display:

[SPEAKER: HIGH] ↕ [SPEAKER: MIDDLE] ↕ [SPEAKER: LOW]

③When the display shows the desired volume level, press the **SPEAKER** key to turn off the speaker.

### (2) Handset

①Lift the handset.

②Press the **UP** or **DOWN** key.

Display:

[RECEIVER: HIGH] ↕ [RECEIVER: MIDDLE]

③When the display shows the desired volume level, replace the handset.

### (3) Ringer

①Press the **UP** or **DOWN** key. (Make sure the **SPEAKER** key has not been pressed and the handset is not lifted.)

Display:

[RINGER: HIGH] ↕ [RINGER: MIDDLE] ↕ [RINGER: LOW] ↕ [RINGER OFF: OK?]

The ringer will ring once at the selected level, then the date and time will reappear in the display.

②If you selected RINGER OFF: OK?, press the **START/MEMORY** key.

# [2] Diagnostics and service soft switch

## 1. Operating procedure

### (1) Entering the diagnostic mode

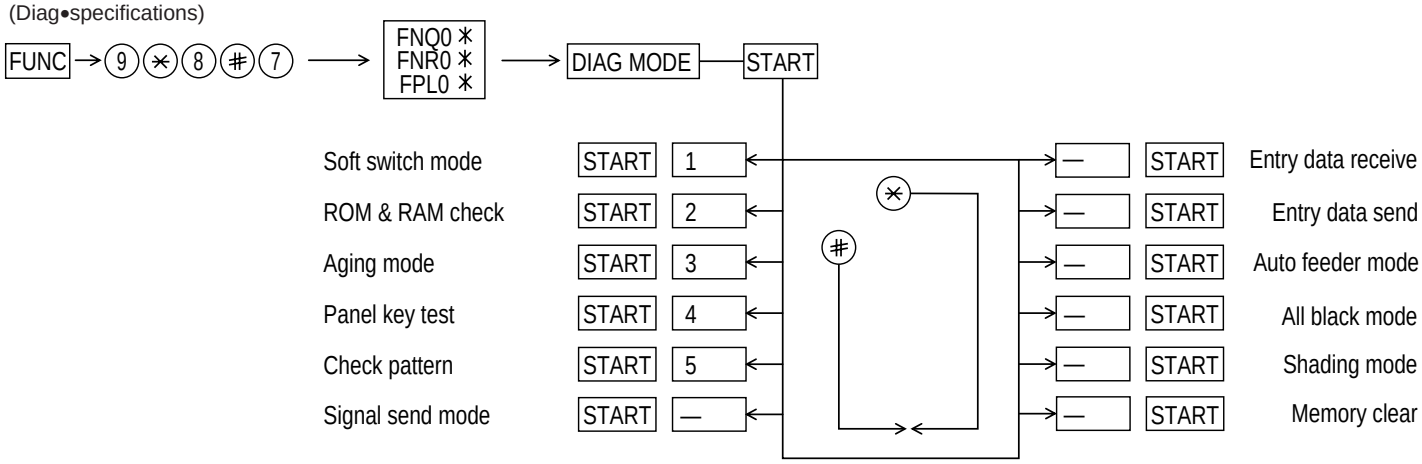
Press [FUNC] →[9] →[✳] →[8] →[#] →[7] , and the following display will appear.

[ROM Ver. FNQ0 ✳ (FNR0 ✳, FPL0 ✳)] After 2 sec: [DIAG MODE]

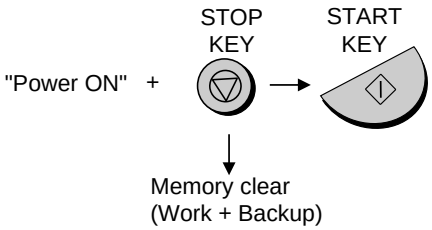
FNQ0 ✳ (UX-340L)
FNR0 ✳ (UX-345L)
FPL0 ✳ (UX-330L)

Then press the [START] key. Select the desired item with the [✳] key or the [#] key or select with the rapid key. Enter the mode with the START key.

(Diag•specifications)




If the diag mode cannot be set, repeat the diag mode operation, performing the following operation.
After the power is turned on and "WAIT A MOMENT" is indicated, press the STOP key.




In relation with the process response (request from Production Engineering) "WAIT A MOMENT" clock indication may appear depending on STOP key timing. If the STOP key is held down, "MEMORY CLEAR?" appears.

## 2. Diagnostic items

| ITEM No. | DIRECT key | Contents | Function |
|---|---|---|---|
| 1 | 1 | SOFT SWITCH MODE | Soft switches are displayed and changed. List can be output. |
| 2 | 2 | ROM & RAM CHECK | ROM is sum-checked, and RAM is matched. Result list is output. |
| 3 | 3 | AGING MODE | 10 sheets of check patterns are output every 5 minutes per sheet. |
| 4 | 4 | PANEL KEY TEST | Panel keys are tested. Result list is output. |
| 5 | 5 | CHECK PATTERN | Check pattern is output. |
| 6 | — | SIGNAL SEND MODE | Various signals of FAX communication are output. |
| 7 | — | MEMORY CLEAR | Back-up memory is cleared, and is set at delivery. |
| 8 | — | SHADING MODE | Shading compensation is performed in this mode. |
| 9 | — | ALL BLACK PRINT | To check the print head, whole dots are printed over the interval of 2 m. |
| 10 | — | AUTO FEEDER MODE | Insertion and discharge of document are tested. |
| 11 | — | ENTRY DATA SEND | Registered content is sent. |
| 12 | — | ENTRY DATA RECEIVE | Registered content is received, and its list is output. |

## 3. Diagnostic items description

### 3. 1. Soft switch mode

Used to change the soft switch settings.

The soft switch which is stored internally is set by using the keys.

The available soft switches are SW-A1 to SW-N3.

The content of soft switches is shown in page 2-5 to 2-17.

The contents are set to factory default settings.

### 3. 2. ROM & RAM check

ROM executes the sum check, and RAM executes the matching test.
The result will be notified with the number of short sounds of the buzzer as well as by printing the ROM & RAM check list.
Number of short sounds of buzzer 0 → No error
1 → ROM error
2 → RAM error (32Kbyte)

### 3. 3. Aging mode

If any document is first present, copying will be executed sheet by sheet. If no document is present, the check pattern will be printed sheet by sheet. This operation will be executed at a rate of one sheet per 5minutes, and will be ended at a total of 10 sheets.

### 3. 4. Panel key test

This mode is used to check whether each key operates properly or not. Press the key on the operation panel, and the key will be displayed on the display. Therefore, press all keys. At this time,finally press the STOP key.

When the STOP key is pressed, the keys which are not judged as "pressed" will be printed on the result list.

- LED part of the contact image sensor (CIS) is kept on during the term from when "START" of the panel test mode to end with the STOP key.

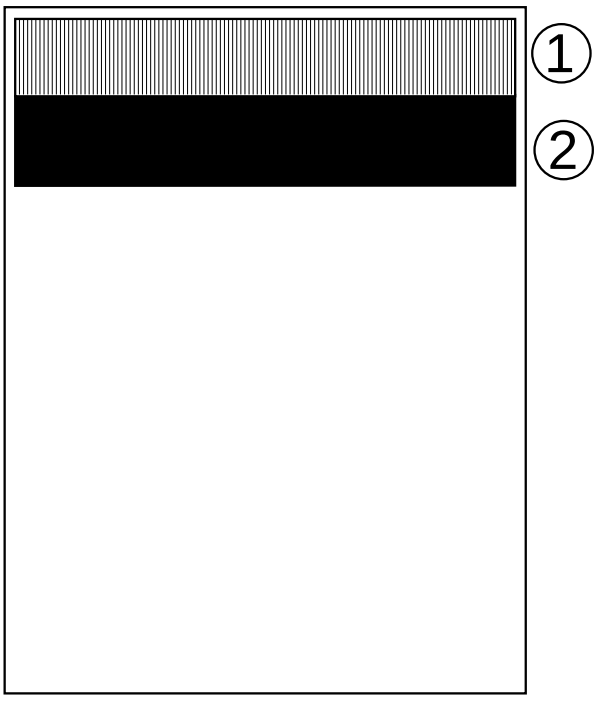
### 3. 5. Check pattern

This mode is used to check the state of the printing head. It is ended with the following pattern printed on one printing sheet.

① Longitudinal stripe 2 Approx. 30 mm

2 black dots and 2 white dots are repeatedly progressed on one line.

② Full black Approx. 30 mm




### 3. 6. Signal send mode

This mode is used to send various signals to the circuit during FAX communication. Every push of START key sends a signal in the following sequence. Moreover, the signal sound is also output to the speaker when the line monitor of the soft switch is on.

[1] No signal (CML signal turned on)
[2] 9600bps
[3] 7200bps
[4] 4800bps
[5] 2400bps
[6] 300bps (FLAG)
[7] 2100Hz (CED)
[8] 1100Hz (CNG)
[9] END

### 3. 7. Memory clear

This mode is used to clear the backup memory and reset to the default settings.

### 3. 8. Shading mode

The mode is used for the shooting compensation. For reading, set up the special original paper.
The shooting compensation memorizes the reference data of white and black for reading.
Moreover, the memorized data is not erased even if memory clear mode is executed.

### 3. 9. All black print

This mode is used to check the state of the printing head and intentionally overheat it. Whole dots are printed over the interval of 2 m. If it is overheated or the printing sheet is jammed, press STOP key for the end.

### 3. 10. Auto feeder mode

In this mode, a document is inserted and discharged to check the auto feed function.

After this mode is started, set a document, and the document feed will be automatically tested.

### 3. 11. Entry data send

This mode is used to send the registered data to the other machine and make the other machine copy the registered content.

Before sending in this mode, it is necessary to set the other machine at the entry data receive mode.

The following, information will be sent to the remote machine:

1. Telephone list data
2. Sender register data
3. Optional setting content
4. Soft switch content
5. Junk fax number list
6. Timer reservation data (only on the model which timer reservation is possible)
7. Recording setting list data

### 3. 12. Entry data receive

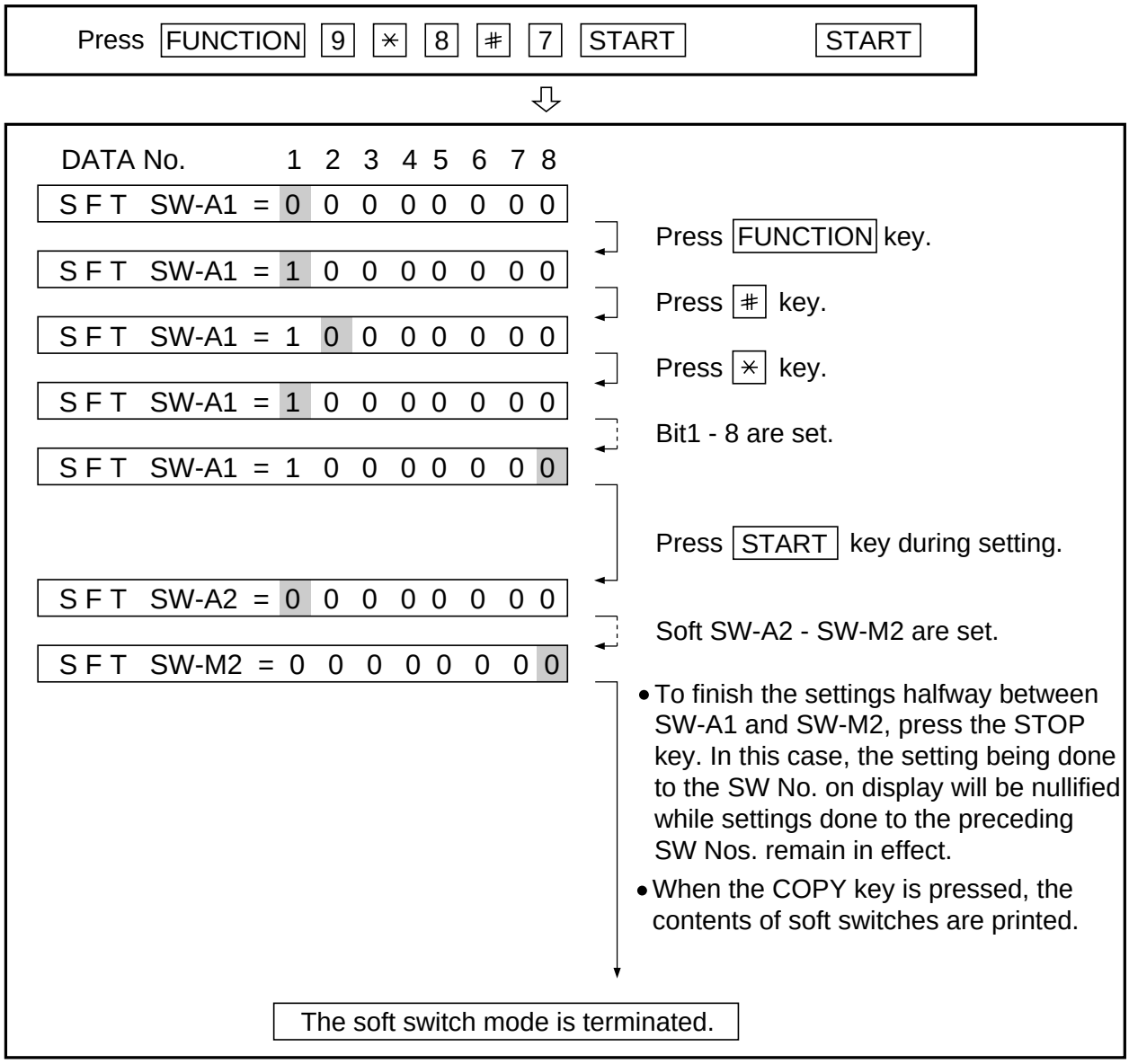
In this mode, the registered data sent from the other machine is received and the received data is registered in the machine. When this mode is used for receiving, the other machine must be in the entry data send mode.

After receiving is completed, the following lists are printed.

1. Telephone list data
2. Sender register data (The passcode No. is also printed if the polling function is provided.)
3. Optional setting list
4. Soft switch content
5. Junk fax number list
6. Timer reservation list (only model which timer communication is possible)
7. Recording setting list data

### 4. How to make soft switch setting

To enter the soft switch mode, press the following key entries in sequence.



## 5. Soft switch description

### • Soft switch

| SW NO. | DATA NO. | ITEM | Switch setting and function | | | | | Initial setting | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | | 0 | | | |
| SW I A1 | 1 | Protect from echo | No | | | Yes | | 0 | |
| | 2 | Forced 4800 BPS reception | Yes | | | No | | 0 | |
| | 3 | Footer print | Yes | | | No | | 0 | |
| | 4 | Length limitation of copy/send/receive | No limit | | | Copy/send: 60cm<br>Receive: 1m | | 0 | |
| | 5 | CSI transmission | No transmitted | | | Transmitted | | 0 | |
| | 6 | DIS receive acknowledgement during G3 transmission | Twice | | | NSF: Once<br>DIS: Twice | | 0 | |
| | 7 | Non-modulated carrier for V29 transmission modem | Yes | | | No | | 0 | |
| | 8 | EOL detect timer | 25 s | | | 13 s | | 0 | |
| SW I A2 | | Modem speed | | V.29 | | V.27 ter | | | |
| | | | | 9600bps | 7200bps | 4800bps | 2400bps | | |
| | 1 | | No. 1 | 0 | 0 | 0 | 0 | 0 | |
| | 2 | | No. 2 | 0 | 0 | 0 | 0 | 0 | |
| | 3 | | No. 3 | 0 | 1 | 1 | 0 | 0 | |
| | 4 | | No. 4 | 1 | 1 | 0 | 0 | 1 | |
| | 5 | Sender's information transmit | No | | | Yes | | 0 | |
| | 6 | H2 mode | No | | | Yes | | 0 | |
| | 7 | Communication error treatment in RTN sending mode (reception) | No communication error | | | Communication error | | 0 | |
| | 8 | CNG transmission | No | | | Yes | | 0 | |
| SW I A3 | | CED tone signal interval | | 1000ms | 750ms | 500ms | 75ms | | |
| | 1 | | No. 1 | 1 | 1 | 0 | 0 | 0 | |
| | 2 | | No. 2 | 1 | 0 | 1 | 0 | 0 | |
| | 3 | MR coding | No | | | Yes | | 0 | |
| | 4 | Reserved | | | | | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| SW I A4 | 1 | Signal transmission level | Binary input | | | | | 0 | |
| | 2 | | No. = 16 8 4 2 1 | | | | | 1 | |
| | 3 | | 1 2 3 4 5 | | | | | 0 | |
| | 4 | | 0 1 0 1 0 | | | | | 1 | |
| | 5 | | | | | | | 0 | |
| | 6 | Protocol monitor (error print) | Printed at com. err | | | Not printed | | 0 | |
| | 7 | Protocol monitor | Yes | | | No | | 0 | |
| | 8 | Line monitor | Yes | | | No | | 0 | |
| SW I A5 | | Digital line equalization setting (Reception) | | 7.2km | | 0km | | | |
| | 1 | | No. 1 | 1 | | 0 | | 1 | |
| | 2 | | No. 2 | 1 | | 0 | | 1 | |
| | 3 | Reserved | | | | | | 0 | |
| | 4 | Reserved | | | | | | 0 | |
| | | Digital cable equalizer setting (Reception | | 7.2km | | 0km | | | |
| | 5 | for Caller ID) | No. 5 | 1 | | 0 | | 0 | |
| | 6 | | No. 6 | 1 | | 0 | | 0 | |
| | 7 | Error criterion | 10 ~ 20 % | | | 5 ~ 10 % | | 0 | |
| | 8 | Anti junk fax check | Yes | | | No | | 0 | OPTION |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | Initial setting | Remarks |
|---|---|---|---|---|---|---|
| | | | 1 | 0 | | |
| SW I A6 | 1 | Auto gain control (MODEM) | Enable | Disable | 1 | |
| | 2 | End Buzzer | Yes | No | 1 | |
| | 3 | Disconnect the line when DIS is received in RX mode | No | Yes | 1 | |
| | 4 | Equalizer freeze control (MODEM) | On | Off | 0 | |
| | 5 | Equalizer freeze control 7200 BPS only | No | Yes | 0 | |
| | 6 | CNG transmission in manual TX mode | Yes | No | 1 | |
| | 7 | Initial compression scheme for sharp fax in TX mode | MR mode | H2 mode | 0 | |
| | 8 | Reserved | | | 0 | |
| SW I B1 | 1 | Recall interval | Binary input | | 0 | OPTION |
| | 2 | | No. = 8 4 2 1 | | 1 | |
| | 3 | | 1 2 3 4 | | 0 | |
| | 4 | | 0 1 0 1 | | 1 | |
| | 5 | Recall times | Binary input | | 0 | OPTION |
| | 6 | | No. = 8 4 2 1 | | 0 | |
| | 7 | | 5 6 7 8 | | 1 | |
| | 8 | | 0 0 1 0 | | 0 | |
| SW I B2 | 1 | Dial pausing (sec/pause) | 4 sec | 2 sec | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Busy tone detection (after auto dial) | No | Yes | 0 | |
| | 5 | Waiting time after dialing | 90 sec | 45 sec | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW I B3 | 1 | Reserved | | | 0 | |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW I B4 | 1 | Auto Dial Mode Delay timer of before line connect | 3 sec | 0 sec | 0 | |
| | 2 | Auto Dial Mode Delay timer of after line connect | 3 sec | 1.7 sec | 0 | |
| | 3 | Dial mode | Tone | Pulse | 1 | OPTION |
| | 4 | Pulse → Tone change function by ⋊ key | Enable | Disable | 1 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Recalling fixed only one time when dialing was unsuccessful without detecting busy tone signal | Yes | No | 1 | |
| SW I B5 | 1 | DTMF signal transmission level (Low) | Binary input | | 0 | |
| | 2 | | No. = 16 8 4 2 1 | | 1 | |
| | 3 | | 1 2 3 4 5 | | 0 | |
| | 4 | | 0 1 0 1 0 | | 1 | |
| | 5 | | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | | | | Initial setting | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | | | 0 | | |
| SW I B6 | 1 | DTMF signal transmission level (High) | Binary input | | | | | 0 | |
| | 2 | | No. = 16 8 4 2 1 | | | | | 0 | |
| | 3 | | 1 2 3 4 5 | | | | | 1 | |
| | 4 | | 0 0 1 1 1 | | | | | 1 | |
| | 5 | | | | | | | 1 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| SW I C1 | | Reading slice (Binary) | | Factory setting | Light | Dark | Darker in dark mode | | |
| | 1 | | No. 1 | 0 | 1 | 0 | 1 | 0 | |
| | 2 | | No. 2 | 0 | 0 | 1 | 1 | 0 | |
| | | Reading slice (Half tone) | | Factory setting | Light | Dark | Darker in dark mode | | |
| | 3 | | No. 3 | 0 | 1 | 0 | 1 | 0 | |
| | 4 | | No. 4 | 0 | 0 | 1 | 1 | 0 | |
| | 5 | Line density selection | Fine | | | Standard | | 0 | OPTION |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | MTF correction in half tone mode | No | | | Yes | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| SW I D1 | 1 | Number of rings for auto receive | Binary input | | | | | 0 | OPTION |
| | 2 | | No. = 8 4 2 1 | | | | | 1 | |
| | 3 | | 1 2 3 4 | | | | | 0 | |
| | 4 | | 0 1 0 0 | | | | | 0 | |
| | 5 | Automatic switching manual to auto receive mode | Reception after 5 rings | | | No reception | | 0 | OPTION |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| SW I D2 | | Distinctive ringing setting | | No. 1 | | No. 2 | No. 3 | | OPTION |
| | | Factory setting: OFF | OFF | 0 | | 0 | 0 | | |
| | | (PATTERN 4 and 5 are for CANADA only) | STANDARD | 0 | | 0 | 1 | | |
| | | | PATTERN1 | 0 | | 1 | 0 | | |
| | | | PATTERN2 | 0 | | 1 | 1 | | |
| | 1 | | PATTERN3 | 1 | | 0 | 0 | 0 | |
| | 2 | | PATTERN4 | 1 | | 0 | 1 | 0 | |
| | 3 | | PATTERN5 | 1 | | 1 | 0 | 0 | |
| | 4 | Reserved | | | | | | 0 | |
| | 5 | Caller ID function | Yes | | | No | | 0 | OPTION |
| | | CI off detection timer (Distinctive ring | | 1200ms | 1000ms | 700ms | 350ms | | |
| | 6 | setting off only) | No. 6 | 0 | 1 | 0 | 1 | 0 | |
| | 7 | | No. 7 | 0 | 0 | 1 | 1 | 1 | |
| | 8 | Caller ID detect during CI off | All times | | | Only first | | 0 | |
| SW I E1 | 1 | Reserved | | | | | | 0 | |
| | 2 | Reserved | | | | | | 0 | |
| | 3 | Reserved | | | | | | 0 | |
| | 4 | Reserved | | | | | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | | | | Initial setting | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | | 0 | | | |
| SW I E2 | 1 | Reserved | | | | | | 0 | |
| | 2 | Reserved | | | | | | 0 | |
| | 3 | Reserved | | | | | | 0 | |
| | 4 | Reserved | | | | | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| SW I F1 | | DTMF detection time | | 50ms | 80ms | 100ms | 120ms | | |
| | 1 | | No. 1 | 0 | 0 | 1 | 1 | 0 | |
| | 2 | | No. 2 | 0 | 1 | 0 | 1 | 0 | |
| | 3 | Protection of remote reception (5 XX ) detect | Yes | | | No | | 0 | OPTION |
| | 4 | Remote reception with GE telephone | Compatible | | | Not compatible | | 1 | |
| | 5 | Remote operation code figure by external | Binary input | | | | | 0 | OPTION |
| | 6 | TEL (0~9) | No. = 8 4 2 1 | | | | | 1 | |
| | 7 | | 5 6 7 8 | | | | | 0 | |
| | 8 | | 0 1 0 1 | | | | | 1 | |
| SW I F2 | 1 | CNG detection in STAND-BY mode | Yes | | | No | | 1 | OPTION |
| | | Number of CNG detect (AM mode) | | 1pulse | 2pulses | 3pulses | 4pulses | | |
| | 2 | | No. 2 | 0 | 0 | 1 | 1 | 0 | |
| | 3 | | No. 3 | 0 | 1 | 0 | 1 | 1 | |
| | | Number of CNG (STAND-BY mode) | | 1pulse | 2pulses | 3pulses | 4pulses | | |
| | 4 | | No. 4 | 0 | 0 | 1 | 1 | 0 | |
| | 5 | | No. 5 | 0 | 1 | 0 | 1 | 1 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| SW I G1 | 1 | Quiet detect time | Binary input | | | | | 0 | OPTION |
| | 2 | | No. = 8 4 2 1 | | | | | 1 | |
| | 3 | | 1 2 3 4 | | | | | 0 | |
| | 4 | | 0 1 0 0 | | | | | 0 | |
| | 5 | Quiet detect start timing | Binary input | | | | | 0 | |
| | 6 | | No. = 8 4 2 1 | | | | | 1 | |
| | 7 | | 5 6 7 8 | | | | | 0 | |
| | 8 | | 0 1 0 1 | | | | | 1 | |
| SW I G2 | 1 | Reserved | | | | | | 0 | |
| | 2 | Reserved | | | | | | 0 | |
| | 3 | Reserved | | | | | | 0 | |
| | 4 | Reserved | | | | | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| SW I G3 | 1 | Reserved | | | | | | 0 | |
| | 2 | Reserved | | | | | | 0 | |
| | 3 | Reserved | | | | | | 0 | |
| | 4 | Reserved | | | | | | 0 | |
| | | Selection time of quiet detection | | 30s | 40s | 50s | 60s | | |
| | 5 | | No. 5 | 0 | 0 | 1 | 1 | 0 | |
| | 6 | | No. 6 | 0 | 1 | 0 | 1 | 1 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | | | | Initial setting | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | 0 | | | | |
| SW I H1 | 1 | Busy tone detection ON/OFF time (Lower duration) | 350ms | | 200ms | | | 0 | |
| | 2 | Busy tone detection ON/OFF time (Upper duration) | 650ms | | 900ms | | | 0 | |
| | 3 | Reserved | | | | | | 0 | |
| | 4 | Busy tone continuous sound detect time | 5s | | 10s | | | 1 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Busy tone detect continuation sound detect (during ICM: for internal A.M.) | No | | Yes | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Busy tone detect intermittent sound detect (during ICM: for internal A.M.) | No | | Yes | | | 0 | |
| SW I H2 | | Busy tone detection pulse number | | 2pulses | 4pulses | 6pulses | 10pulses | | |
| | 1 | | No. 1 | 0 | 0 | 1 | 1 | 0 | |
| | 2 | | No. 2 | 0 | 1 | 0 | 1 | 1 | |
| | 3 | Fax switching when A.M. full | Yes | | No | | | 0 | OPTION |
| | 4 | Reserved | | | | | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| SW I I1 | 1 | Reserved | | | | | | 0 | |
| | 2 | Reserved | | | | | | 0 | |
| | 3 | Reserved | | | | | | 0 | |
| | 4 | Reserved | | | | | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| SW I I2 | 1 | Reserved | | | | | | 0 | |
| | 2 | Reserved | | | | | | 0 | |
| | 3 | Reserved | | | | | | 0 | |
| | 4 | Reserved | | | | | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| SW I I3 | 1 | Reserved | | | | | | 0 | |
| | 2 | Reserved | | | | | | 0 | |
| | 3 | Reserved | | | | | | 0 | |
| | 4 | Reserved | | | | | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |
| SW I I4 | 1 | Reserved | | | | | | 0 | |
| | 2 | Reserved | | | | | | 0 | |
| | 3 | Reserved | | | | | | 0 | |
| | 4 | Reserved | | | | | | 0 | |
| | 5 | Reserved | | | | | | 0 | |
| | 6 | Reserved | | | | | | 0 | |
| | 7 | Reserved | | | | | | 0 | |
| | 8 | Reserved | | | | | | 0 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | | | | | Initial setting | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | | | | 0 | | |
| SW I I5 | 1 | Reserved | | | | | | | 0 | |
| | 2 | Reserved | | | | | | | 0 | |
| | 3 | Reserved | | | | | | | 0 | |
| | 4 | Reserved | | | | | | | 0 | |
| | 5 | Reserved | | | | | | | 0 | |
| | 6 | Reserved | | | | | | | 0 | |
| | 7 | Reserved | | | | | | | 0 | |
| | 8 | Reserved | | | | | | | 0 | |
| SW I I6 | 1 | Reserved | | | | | | | 0 | |
| | 2 | Reserved | | | | | | | 0 | |
| | 3 | Reserved | | | | | | | 0 | |
| | 4 | Reserved | | | | | | | 0 | |
| | 5 | Reserved | | | | | | | 0 | |
| | 6 | Reserved | | | | | | | 0 | |
| | 7 | Reserved | | | | | | | 0 | |
| | 8 | Reserved | | | | | | | 0 | |
| SW I I7 | 1 | Reserved | | | | | | | 0 | |
| | 2 | Reserved | | | | | | | 0 | |
| | 3 | Reserved | | | | | | | 0 | |
| | 4 | Reserved | | | | | | | 0 | |
| | 5 | Reserved | | | | | | | 0 | |
| | 6 | Reserved | | | | | | | 0 | |
| | 7 | Reserved | | | | | | | 0 | |
| | 8 | Reserved | | | | | | | 0 | |
| SW I J1 | 1 | Activity report print | Automatic printout | | | | | No printout when memory full | 0 | OPTION |
| | 2 | Total communication hours and pages print | No | | | | | Yes | 0 | |
| | 3 | Sender's phone number setting | Cannot change | | | | | Change allowed | 0 | |
| | 4 | Reserved | | | | | | | 0 | |
| | 5 | Reserved | | | | | | | 0 | |
| | 6 | Summer time setting | No | | | | | Yes | 1 | OPTION |
| | | Ringer volume | | Off | Low | | Middle | High | | OPTION |
| | 7 | | No. 7 | 0 | 0 | | 1 | 1 | 1 | |
| | 8 | | No. 8 | 0 | 1 | | 0 | 1 | 0 | |
| SW I J2 | | Speaker volume (3 stages) | | Low | Low | | Middle | High | | OPTION |
| | 1 | | No. 1 | 0 | 0 | | 1 | 1 | 1 | |
| | 2 | | No. 2 | 0 | 1 | | 0 | 1 | 0 | |
| | 3 | Polling key | Yes | | | | | No | 0 | OPTION |
| | | Handset receiver volume | | Middle | Middle | | Middle | High | | OPTION |
| | 4 | | No. 4 | 0 | 0 | | 1 | 1 | 1 | |
| | 5 | | No. 5 | 0 | 1 | | 0 | 1 | 0 | |
| | 6 | Reserved | | | | | | | 0 | |
| | 7 | Reserved | | | | | | | 0 | |
| | 8 | Reserved | | | | | | | 0 | |
| SW I J3 | 1 | Automatic cover sheet | Yes | | | | | No | 0 | OPTION |
| | | Communication results printout (Transaction report) | | E/T/M | Send only | Always | No print | Err only | | OPTION |
| | 2 | | No. 2 | 0 | 0 | 0 | 0 | 1 | 1 | |
| | 3 | | No. 3 | 0 | 0 | 1 | 1 | 0 | 0 | |
| | 4 | | No. 4 | 0 | 1 | 0 | 1 | 0 | 0 | |
| | 5 | Reserved | | | | | | | 0 | |
| | 6 | Reserved | | | | | | | 0 | |
| | 7 | Reserved | | | | | | | 0 | |
| | 8 | Reserved | | | | | | | 0 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | | | Initial setting | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | 1 | | 0 | | | |
| SW I K1 | 1 | Entering DIAG mode by pressing SPEED key | Yes | | No | | 0 | |
| | 2 | Reserved | | | | | 0 | |
| | 3 | Reserved | | | | | 0 | |
| | 4 | Reserved | | | | | 0 | |
| | 5 | Reserved | | | | | 0 | |
| | 6 | Reserved | | | | | 0 | |
| | 7 | Reserved | | | | | 0 | |
| | 8 | Reserved | | | | | 0 | |
| SW I L1 | 1 | Reserved | | | | | 0 | |
| | 2 | Reserved | | | | | 0 | |
| | 3 | Reserved | | | | | 0 | |
| | 4 | Reserved | | | | | 0 | |
| | 5 | Cut off mode (COPY mode) | Yes | | No | | 1 | OPTION |
| | 6 | A4 paper enable | Enable | | Disable | | 0 | |
| | 7 | LEGAL & LETTER paper enable | Enable | | Disable | | 1 | |
| | 8 | 2 IN 1 Mode | Yes | | No | | 0 | OPTION |
| SW I L2 | | Paper set size | | LETTER | LEGAL | A4 | | OPTION |
| | 1 | | No. 1 | 0 | 0 | 1 | 0 | |
| | 2 | | No. 2 | 0 | 1 | 0 | 0 | |
| | 3 | Automatic reduce of receive | Auto | | 100 % | | 1 | OPTION |
| | 4 | Print contrast | Light | | Normal | | 0 | OPTION |
| | 5 | Reception reduction ratio in case of memory full | 100 % | | 93 % | | 0 | OPTION |
| | 6 | Reserved | | | | | 0 | |
| | 7 | Reserved | | | | | 0 | |
| | 8 | Reserved | | | | | 0 | |
| SW I M1 | 1 | Reserved | | | | | 0 | |
| | 2 | Reserved | | | | | 0 | |
| | 3 | Reserved | | | | | 0 | |
| | 4 | Reserved | | | | | 0 | |
| | 5 | Reserved | | | | | 0 | |
| | 6 | Reserved | | | | | 0 | |
| | 7 | Reserved | | | | | 0 | |
| | 8 | Reserved | | | | | 0 | |
| SW I M2 | 1 | Reserved | | | | | 0 | |
| | 2 | Reserved | | | | | 0 | |
| | 3 | Reserved | | | | | 0 | |
| | 4 | Reserved | | | | | 0 | |
| | 5 | Reserved | | | | | 0 | |
| | 6 | Reserved | | | | | 0 | |
| | 7 | Reserved | | | | | 0 | |
| | 8 | Reserved | | | | | 0 | |
| SW I N1 | | LCR short time | Binary input | | | | | OPTION |
| | 1 | | No. = 32 | | | | 0 | |
| | 2 | | 1 | | | | 0 | |
| | 3 | | 2 | | | | 0 | |
| | 4 | | 3 | | | | 0 | |
| | 5 | | 4 | | | | 1 | |
| | 6 | | 5 | | | | 0 | |
| | 7 | | 6 | | | | 0 | |
| | 8 | Reserved | | | | | 0 | |
| | | Reserved | | | | | 0 | |

| SW NO. | DATA NO. | ITEM | Switch setting and function | | Initial setting | Remarks |
|---|---|---|---|---|---|---|
| | | | 1 | 0 | | |
| SW I N2 | | LCR long time | Binary input | | | OPTION |
| | 1 | | No. = 32 16 8 4 2 1 | | 0 | |
| | 2 | | 1 2 3 4 5 6 | | 0 | |
| | 3 | | 0 0 0 1 0 0 | | 0 | |
| | 4 | | | | 1 | |
| | 5 | | | | 0 | |
| | 6 | | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |
| SW I N3 | 1 | LCR Time Select | Short | Long | 0 | OPTION |
| | 2 | Reserved | | | 0 | |
| | 3 | Reserved | | | 0 | |
| | 4 | Reserved | | | 0 | |
| | 5 | Reserved | | | 0 | |
| | 6 | Reserved | | | 0 | |
| | 7 | Reserved | | | 0 | |
| | 8 | Reserved | | | 0 | |

## • Soft switch function description

**SW-A1 No. 1 Protect from echo**

Used to protect from echo in reception.

**SW-A1 No. 2 Forced 4800BPS reception**

When line conditions warrant that receptions take place at 4800 BPS repeatedly.

It may improve the success of receptions by setting at 4800BPS.

This improves the receiving document quality and reduces handshake time due to fallback during training.

**SW-A1 No. 3 Footer print**

When set to "1", the date of reception, the sender machine No., and the page No. are automatically recorded at the end of reception.

**SW-A1 No. 4 Length limitation of copy/send/receive**

Used to set the maximum page length.

To avoid possible paper jam, the page length is normally limited to 0.6 meter for copy or transmit, and 1 meters for receive.

It is possible to set it to "No limit" to transmit a long document, such as a computer print form, etc. (In this case, the receiver must also be set to no limit.)

**SW-A1 No. 5 CSI transmission**

(CSI TRANSMISSION) is a switch to set whether the machine sends or does not send the signal (CSI signal) informing its own telephone No. to the remote fax machine when information is received. When "nonsending" is set, the telephone No. is not output on the remote transmitting machine if the remote transmitting machine has the function to display or print the telephone No. of receiving machine, using this CSI signal.

**SW-A1 No. 6 DIS receive acknowledgment during G3 transmission**

Used to make a choice of whether reception of DIS (NSF) is acknowledged after receiving two DISs (NSFs) or receiving one DIS (two NSFs). It may be useful for overseas communication to avoid an echo suppression problem, if set to 1.

**SW-A1 No. 7 Non-modulated carrier for V29 transmission modem**

Though transmission of a non-modulated carrier is not required for transmission by the V29 modem according to the CCITT recommendation, it may be permitted to a send non-modulated carrier before the image signal to avoid an echo suppression problem. It may be useful for overseas communication to avoid an echo suppression problem, if set to 1.

**SW-A1 No. 8 EOL (End Of Line) detect timer**

Used to make a choice of whether to use the 25-second or 13-second timer for detection of EOL.
This is effective to override communication failures with some facsimile models that have longer EOL detection.

**SW-A2 No. 1 ~ No. 4 Modem speed**

Used to set the initial modem speed. The default is 9600BPS.
It may be necessary to program it to a slower speed when frequent line fallback is encountered, in order to save the time required for fallback procedure.

**SW-A2 No. 5 Sender's information transmit**

(SENDER'S INFORMATION TRANSMISSION) is a switch to set the function to print the content of HEADER PRINT described in the passcode list at the front end of receiver's original when original is sent to the remote machine.

If this switch is set to "NO", the HEADER PRINT is not output at the receiving machine.

**SW-A2 No. 6 H2 mode**

Used to determine reception of H2 mode (15 sec transmission mode). When set to OFF, H2 mode reception is inhibited even though the transmitting machine has H2 mode function.

**SW-A2 No. 7 Communication error treatment in RTN sending mode (Reception)**

Used to determine communication error treatment when RTN is sent by occurrence of a received image error in G3 reception. When it is set to "1", communication error is judged as no error.

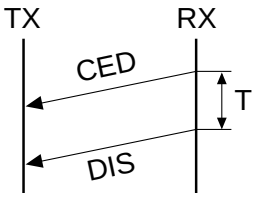
**SW-A2 No. 8 CNG transmission**

When set to "0" , this model allows CNG transmission by pressing the Start key in the key pad dialing mode. When set to "1", CNG transmission in the key pad dialing mode cannot be performed. In either case. CNG transmission can be performed in the auto dial mode.

**SW-A3 No. 1, No. 2 CED tone signal interval**

For international communication, the 2100Hz CED tone may act as an echo suppression switch, causing a communication problem.

Though SW-A3 No. 1 and No. 2 are normally set to 0, this selfing is used to change the time between the CED tone signal to eliminate the communication caused by echo.




**SW-A3 No. 3 MR Coding**

MR Coding is enable.

**SW-A3 No. 4 ~ No. 8 Reserved**

Set to "0".

**SW-A4 No. 1 ~ No. 5 Signal transmission level**

Used to control the signal transmission level in the range of-0dB to-31dB.

**SW-A4 No. 6 Protocol monitor (Error print)**

If set to "1", protocol is printed at communication error.

**SW-A4 No. 7 Protocol monitor**

Normally set to "0". If set to "1", communication can be checked, in case of trouble, without using a G3 tester or other tools.
When communication FSK data transmission or reception is made, the data is taken into the buffer. When communication is finished, the data is analyzed and printed out. When data is received with the line monitor (SW-A4 No. 8) set to "1" the reception level is also printed out.

**SW-A4 No. 8 Line monitor**

Normally set to "0". If set to "1", the transmission speed and the reception level are displayed on the LCD. Used for line tests.

**SW-A5 No. 1, No. 2 Digital line equalization setting (Reception)**

Line equalization when reception is to be set according to the line characteristics.

Setting should be made according to distance between the telephone and the telephone company central switching station.

**SW-A5 No. 3, No. 4 Reserved**

Set to "0".

**SW-A5 No. 5, No. 6 Digital cable equalizer setting (Reception for Caller ID)**

Line equalization when reception for CALLER ID is to be set according to the line characteristics.
Setting should be made according to distance between the telephone and the telephone company central switching station.

**SW-A5 No. 7 Error criterion**

Used to select error criterion for sending back RTN when receiving image data.

**SW-A5 No. 8 Anti junk fax check**

When using the Anti junk fax function, set to "1".

**SW-A6 No. 1 Auto gain control (MODEM)**

When this mode is enabled, if the reception signal level is under 31dBm, the modem itself controls the signal gain automatically.

**SW-A6 No. 2 End buzzer**

Setting this bit to 0 will disable the end buzzer (including the error buzzer/ on-hook buzzer).

**SW-A6 No. 3 Disconnect the line when DIS is received in RX mode**

Bit1= 0: When DIS signal is received during RX mode, the line is disconnected immediately.

Bit1= 1: When DIS signal is received during RX mode, the line is disconnected on the next tone.

**SW-A6 No. 4 Equalizer freeze control (MODEM)**

This switch is used to perform reception operation by fixing the equalizer control of modem for the line which is always in an unfavorable state and picture cannot be received.

* Usually, the control is executed according to the state of line where the equalizer setting is changed always.

**SW-A6 No. 5 Equalizer freeze control 7200BPS only**

Setting which specifies SW-A3 No. 6 control only in the condition of 7200BPS modem speed.

**SW-A6 No. 6 CNG transmission in manual TX mode**

When set to "1", fax transmit the CNG signal in case of manual transmission mode (User press the START key after waiting for the fax answering signal from handset or speaker).

**SW-A6 No. 7 Initial compression scheme for sharp fax in TX mode**

When set to "0", if the other fax is Sharp model, fax transmit the document by H2 mode. When set to "1", even if the other fax is Sharp model, fax transmit the document by MR mode.

**SW-A6 No. 8 Reserved**

Set to "0".

**SW-B1 No. 1 ~ No. 4 Recall interval**

Choice is made for a redial interval for speed and rapid dial calls.
Use a binary number to program this. If set to 0 accidentally, 1 will be assumed.

**SW-B1 No. 5 ~ No. 8 Recall times**

Choice is made as to how many redials there should be.

**SW-B2 No. 1 Dialing pause (sec/pause)**

Pauses can be inserted between telephone numbers of direct dial connection. Selection of 4 sec or 2 sec pause is available.

**SW-B2 No. 2, No. 3 Reserved**

Set to "0".

**SW-B2 No. 4 Busy tone detection (after auto dial)**

Used to set busy tone detection in auto dialing.

**SW-B2 No. 5 Waiting time after dialing**

This is time waiting for the opponent's signals after dialing.

For the Switzerland version, the time is fixed to 90 seconds regardless of this switch setting.

**SW-B2 No. 6 ~ No. 8 Reserved**

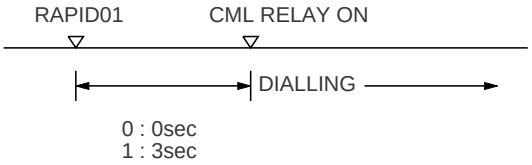
Set to "0".

**SW-B3 No. 1 ~ No. 8 Reserved**

Set to "0".

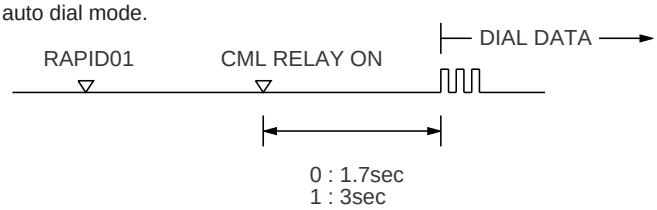
**SW-B4 No. 1 Auto dial mode Delay timer of before line connect**

Delay time between the dial key input and line connection under the auto dial mode.




**SW-B4 No. 2 Auto dial mode Delay timer of after line connect**

Delay time between the line connection and dial data output under the auto dial mode.




**SW-B4 No. 3 Dial mode**

When using the pulse dial, set to 1. When using the tone dial, set to 0.

**SW-B4 No. 4 Pulse → Tone change function by ✳ key**

When setting to 1, the mode is changed by pressing the ✳ key from the pulse dial mode to the tone dial mode.

**SW-B4 No. 5 ~ No. 7 Reserved**

Set to "0".

**SW-B4 No. 8 Recalling fixed only one time when dialing was unsuccessful without detecting busy tone signal**

When dialing results in failure since the busy tone cannot be detected, recalling is fixed to one time.

Supplementary explanation
If time-out termination is made when dialing, only single recall is possible even if the setting time of recalls (SW-B1 No. 5 - No. 8) has been set to some times. This soft switch is added in order to meet FCC.

**SW-B5 No. 1 ~ No. 5 DTMF signal transmission level (Low)**

The transmission level of DTMF signal is adjusted. (lower frequency)

00000: 0dBm

↓

11111: -15.5dBm (-0.5dBm x 31)

**SW-B5 No. 6 ~ No. 8 Reserved**

Set to "0".

**SW-B6 No. 1 ~ No. 5 DTMF signal transmission level (High)**

The transmission level of DTMF signal is adjusted. (higher frequency)

00000: 0dBm

↓

11111: -15.5 dBm (-0.5dBm x 31)

**SW-B6 No. 6 ~ No. 8 Reserved**

Set to "0".

**SW-C1 No. 1, No. 2 Reading slice (Binary)**

Used to determine the set value of reading density in standard/fine mode. The standard setting is "00" (Factory setting is "00")

**SW-C1 No. 3, No. 4 Reading slice (Half tone)**

Used to determine the set value of reading density in half tone mode. The standard setting is "00" (Factory setting is "00")

**SW-C1 No. 5 Line density selection**

Used to set the transmission mode which is automatically selected when the Resolution key is not pressed. In the copy mode, however, the fine mode is automatically selected unless the Resolution key is manually set to another mode.

**SW-C1 No. 6 Reserved**

Set to "0".

**SW-C1 No. 7 MTF correction in half tone mode**

This allows selection of MTF correction (dimness correction) in the half tone mode.
When "NO" (=1) is selected, the whole image becomes soft and mild. Clearness of characters will be reduced. Normally set to "YES" (=0).

**SW-C1 No. 8 Reserved**

Set to "0".

**SW-D1 No. 1 ~ No. 4 Number of rings for auto receive**

When the machine is set in the auto receive mode, the number of rings before answering can be selected. It may be set from one to four rings using a binary number. Since the facsimile telephone could be used as an ordinary telephone if the handset is taken off the hook, it should be programmed to the user's choice. If the soft switch was set to 1, direct connection is made to the facsimile. If a facsimile calling beep was heard when the handset is taken off the hook, press the START key and put the handset on the hook to have the facsimile start receiving. If it was set to 0 accidentally, receive ring is set to 1.

NOTE: If the machine is set to answer after a large number of rings, it may not be able to receive faxes successfully. If you have difficulty receiving faxes, reduce the number of rings to a maximum of 6.

**SW-D1 No. 5 Automatic switching manual to auto receive mode**

This soft switch is used to select whether the machine should switch to the auto receive mode after 5 rings in the manual receive mode or remain in the same way as SW-D1 No. 1, No. 2, No. 3 and No. 4 "0"1"0"1"(5 rings).

**SW-D1 No. 6 ~ No. 8 Reserved**

Set to "0".

**SW-D2 No. 1 ~ No. 3 Distinctive ringing setting (Factory setting: OFF) (PATTERN 4 and 5 are for CANADA only)**

This function allows reception of services offered by USA and Canada telephone companies in which the customer contracts with the telephone company to have up to 4 telephone numbers (USA) or 6 telephone numbers (Canada) established for one line.
Each telephone number is signalled by a different ringing pattern, and the customer can allocate each number to a specific use.

<Example of use>

| | Phone Number | Intended Purpose | Ring Pattern |
|---|---|---|---|
| One phone line | 555-1234 | Voice Calls | Standard |
| | 555-1235 | Facsimile Calls | Pattern 1 |
| | 555-1236 | Answering Machine | Pattern 2 |
| | 555-1237 | PC Modem | Pattern 3 |

<Distinctive Ringing Timing Specifications>

1) USA

DISTINCTIVE RING → 1:RING PATTERN 1 → 2:RING PATTERN 2 ↓
↑ 3:RING PATTERN 3 ↓
5:OFF SETTING ← 4:STANDARD RING ←

2) Canada

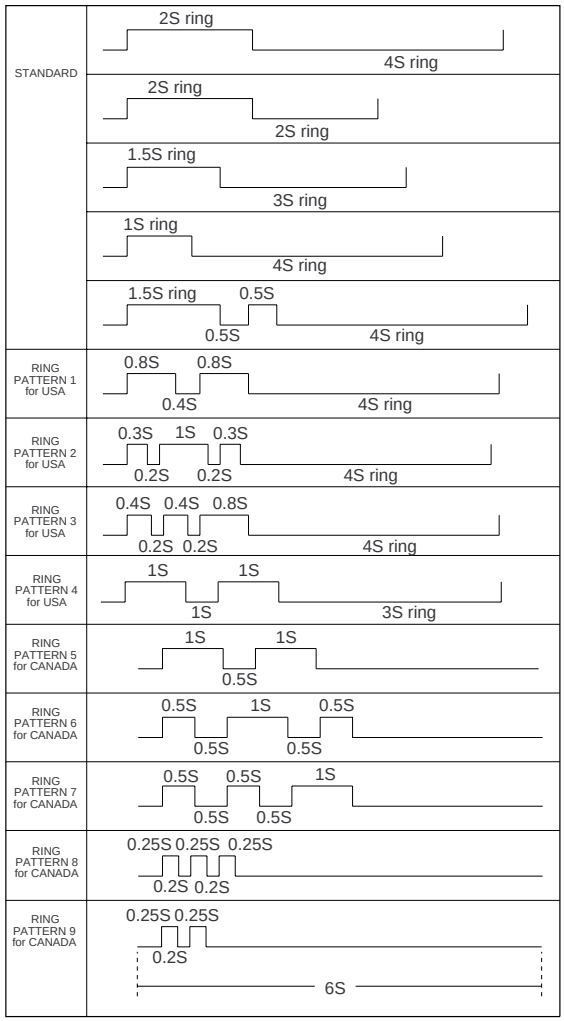
DISTINCTIVE RING → 1:RING PATTERN 1 → 2:RING PATTERN 2 ↓
↑ 3:RING PATTERN 3 ↓
7:OFF SETTING ↑ 4:RING PATTERN 4 ↓
6:STANDARD RING ← 5:RING PATTERN 5 ←

- Ring Pattern

STANDARD has 5 ring patterns, and DISTINCTIVE has 9 patterns.
Ring patterns ①~④ for USA, and ⑤~⑨ for Canada.
However, to make the setting procedure as easy as possible for the user to understand these patterns are grouped as follows:

<Optional Setting>

| | | |
|---|---|---|
| 1) RING PATTERN 1 | RING PATTERN ① | for USA |
| | RING PATTERN ④ | for USA |
| | RING PATTERN ⑤ | for Canada |
| 2) RING PATTERN 2 | RING PATTERN ② | for USA |
| | RING PATTERN ⑥ | for Canada |
| 3) RING PATTERN 3 | RING PATTERN ③ | for USA |
| | RING PATTERN ⑦ | for Canada |
| 4) RING PATTERN 4 | RING PATTERN ⑧ | for Canada |
| 5) RING PATTERN 5 | RING PATTERN ⑨ | for Canada |
| 6) STANDARD RING | | |
| 7) OFF SETTING | | |




**SW-D2 No. 4 Reserved**

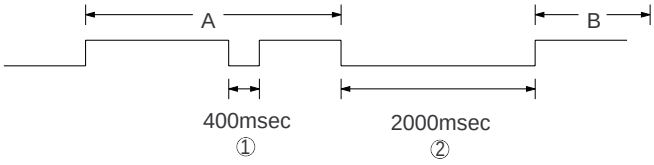
Set to "0".

**SW-D2 No. 5 Caller ID function**

Used for Caller ID function.

**SW-D2 No. 6, No. 7 CI off detection timer (Distinctive ring setting off only)**

Set the minimum time period of CI signal interruption which affords to be judged as a CI OFF section.




**SW-D2 No. 8 Caller ID detect during CI off**

Detection of caller ID signal is performed as follows:
0:First CI OFF only
1:All of CI OFF

**SW-E1 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-E2 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-F1 No. 1, No. 2 DTMF detect time**

Used to set detect time of DTMF (Dual Tone Multi Frequency) used in remote reception (5 ✕ ✕).

The longer the detect time is, the less the error detection is caused by noises.

**SW-F1 No. 3 Protection of remote reception (5 ✳✳) detect**

Used to set the function of remote reception (5 ✳✳). When set to "1", the remote reception function is disabled.

**SW-F1 No. 4 Remote reception with GE telephone**

(Corresponding to TEL made by GE) P. B. X.

"1": Compatible with TEL mode by GE

"0": Not compatible

- When sending (5 ✳✳) for remote reception with a GE manufactured telephone remote reception may not take place because of special specifications in their DTMF.
  To overcome this, a soft SW is provided to change the modem setting to allow for remote reception.
- If this soft SW is set to "1", other telephone sets may be adversely affected.

**SW-F1 No. 5 ~ No. 8 Remote operation code figure by external TEL (0 ~ 9)**

Remote operation codes can be changed from 0 through 9. If set to greater than 9, it defaults to 9. The "5 ✳✳ " is not changed.
Ex-7 ✳✳ (Default: 5 ✳✳)

**SW-F2 No. 1 CNG detection in STAND-BY mode**

When setting to "1", the CNG signal detection function during standby stops.

**SW-F2 No. 2, No. 3 Number of CNG detect (AM mode)**

Used for detection of CNG in 1 to 4 pulses.

**SW-F2 No. 4, No. 5 Number of CNG (STAND-BY mode)**

Used for detection of CNG in 1 to 4 pulses.

**SW-F2 No. 6 ~ No. 8 Reserved**

Set to "0".

**SW-G1 No. 1 ~ No. 4 Quiet detect time**

When an answering machine is connected, if a no sound state is detected for a certain period of time, the machine judges it as a transmission from a facsimile machine and automatically switches to the FAX mode.

**SW-G1 No. 5 ~ No. 8 Quiet detect start timing**

Inserts a pause before commencing quiet detection.

**SW-G2 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-G3 No. 1 ~ No. 4 Reserved**

Set to "0".

**SW-G3 No. 5, No. 6 Selection time of quiet detection**

The switch which sets the time from the start of detection function to the end of the function.

**SW-G3 No. 7, No. 8 Reserved**

Set to "0".

**SW-H1 No. 1 Busy tone detection ON/OFF time (Lower duration)**

The initial value of detection is set according to electric condition.

The set value is changed according to the local switch board. (Erroneous detection of sound is reduced.)

Normally the upper limit is set to 900msec, and the lower limit to 200msec.

If erroneous detection is caused by sound, etc., adjust the detection range.

The lower limit can be set in the range of 350msec to 200msec.

**SW-H1 No. 2 Busy tone detection ON/OFF time (Upper duration)**

Similarly to SW-H1 No. 1, the set value can be varied.

The upper limit can be set in the range of 650msec to 900msec.

| SW-H1 No. 1 | SW-H1 No. 2 | Detection range |
|---|---|---|
| 0 | 0 | 200msec ~ 900msec |
| 0 | 1 | 200msec ~ 650msec |
| 1 | 0 | 350msec ~ 900msec |
| 1 | 1 | 350msec ~ 650msec |

**SW-H1 No. 3 Reserved**

Set to "0".

**SW-H1 No. 4 Busy tone continuous sound detect time**

Set detecting time busy tone for 5 seconds or as is PTT.

**SW-H1 No. 5 Reserved**

Set to "0".

**SW-H1 No. 6 Busy tone detect continuation sound detect (during ICM: for internal A.M.)**

Used to select detection of the continuous sound of certain frequency.

**SW-H1 No. 7 Reserved**

Set to "0".

**SW-H1 No. 8 Busy tone detect intermittent sound detect (during ICM: for internal A.M.)**

Used to select detection of the intermittent sound of certain frequency.

**SW-H2 No. 1, No. 2 Busy tone detection pulse number**

Used to set detection of Busy tone intermittent sounds.

**SW-H2 No. 3 Fax switching when A.M. full**

If the answering machine's memory (tape) is full and there is no response, the machine automatically switches to Fax reception.

**SW-H2 No. 4 ~ No. 8 Reserved**

Set to "0".

**SW-I1 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-I2 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-I3 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-I4 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-I5 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-I6 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-I7 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-J1 No. 1 Activity report print**

This soft switch is used to select: whether or not to print out the activity report when the memory is full. An activity report can be printed when the following key entry command is made.

"FUNCTION", "2", "#", "START"

After producing the activity report, all the data in the memory will be cleared.

When the switch function is set to "0" (no), the data in the memory will be deleted from the oldest as it reaches the maximum memory capacity.

**SW-J1 No. 2 Total communication hours and pages print**

Used to make a choice of whether the total communication time and pages are recorded in the activity report.

**SW-J1 No. 3 Sender's phone number setting**

Used to make a choice of whether the registered sender's phone number can be changed or not. If the switch is set to "1", new registration of the sender's phone number is disabled to prevent accidental wrong input.

**SW-J1 No. 4, No. 5 Reserved**

Set to "0".

**SW-J1 No. 6 Summer time setting**

This is used to set YES/NO of automatic clock adjustment for European Summer time.

**SW-J1 No. 7, No. 8 Ringer volume**

Used to adjust ringing volume.

**SW-J2 No. 1, No. 2 Speaker volume (3 stages)**

Used to adjust sound volume from a speaker.

**SW-J2 No. 3 Polling key**

If this switch is set to 1, the last of Rapid key works as polling key.

**SW-J2 No. 4, No. 5 Handset receiver volume**

Used to adjust sound volume from a handset receiver volume.

**SW-J2 No. 6 ~ No. 8 Reserved**

Set to "0".

**SW-J3 No. 1 Automatic cover sheet**

The machine automatically generates a cover sheet and sends it as the last page of each transmission.

**SW-J3 No. 2 ~ No. 4 Communication result printout (Transaction report)**

Every communication, the result can be output. As usual, it is set to print the timer sending communication error alone. If No. 2: 0 No. 3: 1 No. 4: 0 are set, printing is always on (printed even if it is normally ended).

000: Error, timer and memory sending/receiving

001: Sending

010: Continuous printing

011: Not printed

100: Communication error

**SW-J3 No. 5 ~ No. 8 Reserved**

Set to "0".

**SW-K1 No. 1 Entering DIAG mode by pressing SPEED key**

A bit which is used in the production process only. When the SPEED key is pressed, the switch is changed from the stand-by state to the DIAG mode.

**SW-K1 No. 2 ~ No. 8 Reserved**

Set to "0".

**SW-L1 No. 1 ~ No. 4 Reserved**

Set to "0".

**SW-L1 No. 5 Cut off mode (COPY mode)**

Whether the excessive part is printed on the next recording paper or discarded is selected to copy a document which is longer than the recording paper.

**SW-L1 No. 6 A4 Paper enable**

The use of recording paper of A4 is enabled.

**SW-L1 No. 7 LEGAL and LETTER paper enable**

The use of recording paper of LEGAL and LETTER is enabled.

**SW-L1 No. 8 2 IN 1 mode**

A function to print transmitted data of two pages on one sheet.

**SW-L2 No. 1, No. 2 Paper set size**

At present size of the recording paper.

**SW-L2 No. 3 Automatic reduce of receive**

If set to 1, it is reduced automatically when receiving.

**SW-L2 No. 4 Print contrast**

0: Normal
1: Light

**SW-L2 No. 5 Reception reduction ratio in case of memory full**

This model is designed so that the print is started according to the setting of SW-L2 No.3 when reception of one page is completed. However, if the memory is filled with data before completion of reception of one page, the print is started with the reduction ratio which is set with this switch.

**SW-L2 No. 6 ~ No. 8 Reserved**

Set to "0".

**SW-M1 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-M2 No. 1 ~ No. 8 Reserved**

Set to "0".

**SW-N1 No. 1 ~ No. 6 LCR short time**

First time setting transmitting to the Open LCR center.
Default value: 02 minutes

**SW-N1 No. 7, No. 8 Reserved**

Set to "0".

**SW-N2 No. 1 ~ No. 6 LCR long time**

Second time setting transmitting to the Open LCR center.
Default value: 04 minutes

**SW-N2 No. 7, No. 8 Reserved**

Set to "0".

**SW-N3 No. 1 LCR Time Select**

Used to select LCR short time or LCR long time.

0 ... LCR short time is selected. <- Default
1 ... LCR long time is selected.

**SW-N3 No. 2 ~ No. 8 Reserved**

Set to "0".

# [3] Troubleshooting

Refer to the following actions to troubleshoot any of the problems mentioned in 1-4.

[1] A communication error occurs.

[2] Image distortion produced.

[3] Unable to do overseas communication.

[4] Communication speed slow due to FALLBACK.

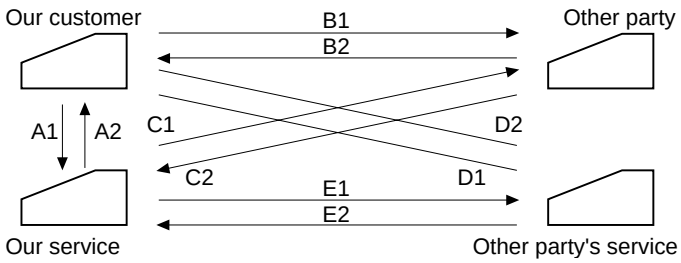
- Increase the transmission level SOFT SWITCH A4-1, 2, 3, 4, 5. May be used in case [1] [2] [3].
- Decrease the transmission level SOFT SWITCH A4-1, 2, 3, 4, 5. May be used in case [3].
- Apply line equalization SOFT SWITCH A5-1, 2. May be used in case [1] [2] [3] [4].
- Slow down the transmission speed SOFT SWITCH A2-1, 2, 3, 4. May be used in case [2] [3].
- Replace the TEL/LIU PWB. May be used in all cases.
- Replace the control PWB. May be used in all cases.

* If transmission problems still exist on the machine, use the following format and check the related matters.

TO: ATT: Ref.No. :
CC: ATT: Date :
FM: Dept :
Sign :

| ***** Facsimile communication problem ***** | | | | Ref.No.: |
|---|---|---|---|---|
| From: Mr. | Fax Tel No.: | | | Date: |
| Our customer | Name | | | Tel No. |
| | Address | | | Fax No. |
| | Contact person | | | Model name |
| Other party | Name | | | Tel No. |
| | Address | | | Fax No. |
| | Contact person | | | Model name |
| Problem mode | Line: Domestic / international | | Model: G3 | Phase: A, B, C, D. |
| | Reception / Transmission | Automatic reception / Manual reception | | |
| | | Automatic dialing / Manual dialing / Others | | |
| Frequency: | | % | ROM version: | |

Confirmation item




Please mark problem with an X.
No problem is: 0.

| A1 | A2 | B1 | B2 | C1 | C2 | D1 | D2 | E1 | E2 |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

Transmission level setting is ( ) dB at our customer

Transmission level ( ) dBm
Reception level ( ) dBm
By level meter at B1 and B2

| Comment | |
|---|---|
| Countermeasure | |

**** Please attach the G3 data and activity report on problem. ****

* Please complete this report before calling the “TAC” hotline if problem still occurs.

# [4] Error code table

## 1. Communication error code table

### G3 Transmission

| Code | Final received signal | Error Condition (Receiver side) |
|---|---|---|
| 0 | Incomplete signal frame | Cannot recognize bit stream after flag |
| 1 | NSF, DIS | Cannot recognize DCS signal by echo etc.<br>Cannot recognize NSS signal (FIF code etc) |
| 2 | CFR | Disconnects line during reception (carrier missing etc) |
| 3 | FTT | Disconnects line by fall back |
| 4 | MCF | Disconnects line during reception of multi page<br>Cannot recognize NSS, DCS signal in the case of mode change |
| 5 | PIP or PIN | The line is hung up without replying to telephone request from the receiving party. |
| 6 | RTN or RTP | Cannot recognize NSS, DCS signal after transmit RTN or RTP signal. |
| 7 | No signal or DCN | No response in receiver side or DCN signal received* (transmitter side) |
| 8 | – | Owing to error in some page the error could not be corrected although the specified number of error retransmissions were attempted. |
| 11 | – | Error occurred after or while reception by the remote (receiving) machine was revealed to be impossible. |
| 12 | – | Error occurred just after fallback. |
| 13 | – | Error occurred after a response to retransmission end command was received. |

### G3 Reception

| Code | Final received signal | Error Condition (Receiver side) |
|---|---|---|
| 0 | Incomplete signal frame | Cannot recognize bit stream after flag |
| 1 | NSS, DCS | Cannot recognize CFR or FTT signal<br>Disconnects line during transmission (line error) |
| 2 | NSC, DTC | Cannot recognize NSS signal (FIF code etc) |
| 3 | EOP | Cannot recognize MCF, PIP, PIN, RTN, RTP signal |
| 4 | EOM | Cannot recognize MCF, PIP, PIN, RTN, RTP signal in the case of mode change |
| 5 | MPS | The line is hung up without replying to communication request. |
| 6 | PR1-Q | Cannot recognize PIP, PIN signal in the case of TALK request |
| 7 | No signal or DCN | No response in transmitter (cannot recognize DIS signal) or DCN signal received* (receiver side) |
| 8 | – | Error occurred upon completion of reception of all pages. |
| 9 | – | Error occurred when mode was changed or Transmission/Reception switching was performed. |
| 10 | – | Error occurred during partial page or physical page reception. |
| 11 | – | Error occurred after or during inquiry from the remote (transmitting) machine as to whether reception is possible or not. |
| 12 | – | Error occurred during or just after fallback. |
| 13 | – | Error occurred after the retransmission end command was received. |

M E M O

# CHAPTER 3. MECHANISM BLOCKS

## [1] General description

### 1. Document feed block and diagram

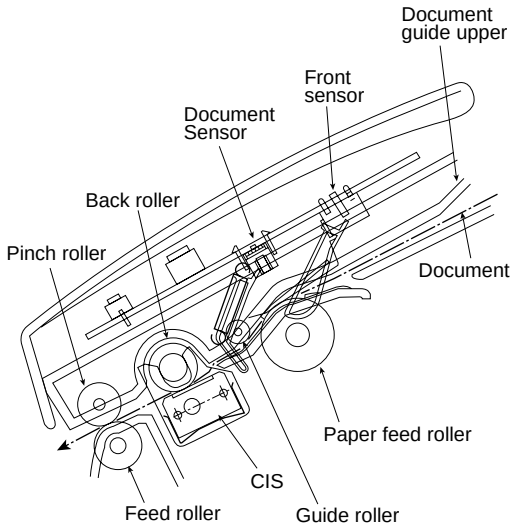



Fig. 1

### 2. Document feed operation

1) The original, which is set in the document hopper, feeds automatically when the front sensor is activated. This in turn activates the pulse motor which drives the document supply roller. The document stops when the lead edge is detected by the document sensor.
2) The lead edge of the original is fed a specified number of pulses after the lead edge of the document is detected for the reading process to begin.
3) The trailing edge of the original is fed a specific number of pulses after the trailing edge of the document deactivates the document sensor. The read process then stops and the original is discharged.
4) When the front sensor is in the OFF state (any document is not set up in the hopper guide), the drive will be stopped when the document is discharged.

### 3. Hopper mechanism

### 3-1. General view

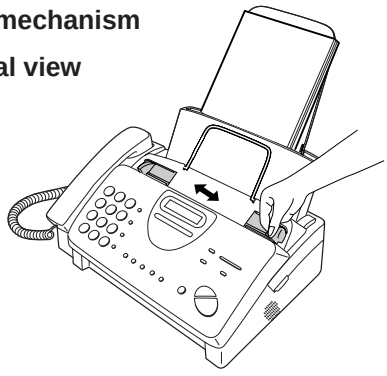


Fig. 2

The hopper section contains document guides that are used to adjust the hopper to the width of the original document. This ensures that the original feeds straight into the fax machine for scanning.
Document width: 148 mm to 216 mm (A5 longitudinal size to Letter longitudinal size)
NOTE: Adjust the document guide after setting up the document.

### 3-2. Automatic document feed

1) Use of the paper feed roller and separation rubber plate ensures error-free transport and separation of documents. The plate spring presses the document to the paper feed roller to assure smooth feeding of the document.
2) Document separation method: Separation rubber plate

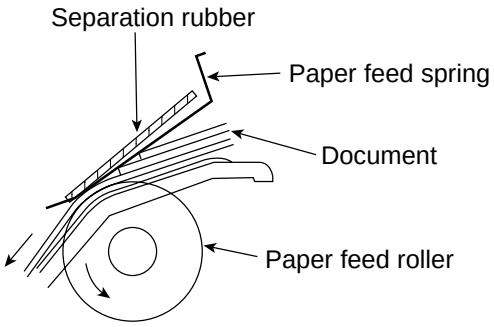



Fig. 3

### 3-3. Documents applicable for automatic feed

| | 4x6 series (788mm x 1091mm x 1000mm sheets) | | Square meter series | |
|---|---|---|---|---|
| | Minimum | Maximum | Minimum | Maximum |
| Feeder capacity | 10 sheets, max. | | | |
| Paper weight | 45kg | 64.3kg | 52g/m$^2$ | 74.3g/m$^2$ |
| Paper thickness (ref.) | 0.06mm | 0.09mm | 0.06mm | 0.09mm |
| Paper size | B6 (128mm x 182mm) ~ A4 (210mm x 297mm), Letter (216mm x 279mm) | | | |

NOTE: Double-side coated documents and documents on facsimile recording paper should be inserted manually. The document feed quantity may be changed according to the document thickness.

Documents corresponding to a paper weight heavier than 64.3kg (74.3g/m$^2$ ) and lighter than 135kg (157g/m$^2$ ) are acceptable for manual feed.

Documents heavier than 135kg in terms of the paper weight must be duplicated on a copier to make it operative in the facsimile.

### 3-4. Loading the documents

1) Make sure that the documents are of suitable size and thickness, and free from creases, folds, curls, wet glue, wet ink, clips, staples and pins.
2) Place documents face down in the hopper.
   i) Adjust the document guides to the document size.
   ii) Align the top edge of documents and gently place them into the hopper. The first page under the stack will be taken up by the feed roller to get ready for transmission.

NOTES: 1) Curled edge of documents, if any, must be straightened out.
2) Do not load the documents of different sizes and/or thicknesses together.

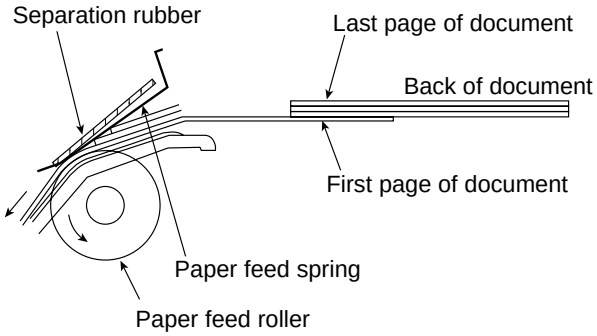



Fig. 4

## 3-5. Documents requiring use of document carrier

1) Documents smaller than B6 (128mm x 182mm).
2) Documents thinner than the thickness of 0.06mm.
3) Documents containing creases, folds, or curls, especially those whose surface is curled (maximum allowable curl is 5mm).
4) Documents containing tears.
5) Carbon-backed documents. (Insert a white sheet of paper between the carbon back and the document carrier to avoid transfer of carbon to the carrier.)
6) Documents containing an easily separable writing material (e.g., those written with a lead pencil).
7) Transparent documents.
8) Folded or glued documents.

Document in document carrier should be inserted manually into the feeder.

## 4. Document release

### 4-1. General

To correct a jammed document or to clean the document running surface, pull the insertion side of document center of the operation panel. To open the upper document guide, the operation panel must be opened first.

### 4-2. Cross section view

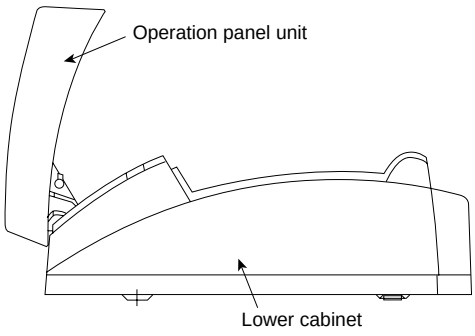



Fig. 5

## 5. Recording block

### (1) General view

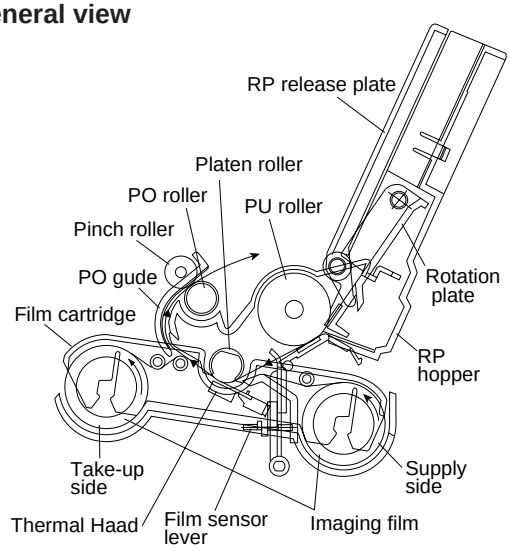



Fig. 6

### 5-1. Driving

In the drive mechanism, the rotating force of the pulse motor for both transmission and reception is transmitted to the paper supply roller, the recording paper feed roller and imaging film drive gear through the pulse motor axle gear, reduction gear and planetary gear.

### 5-2. Recording

This equipment employs the thermal transcription system which used the thermal head imaging film.

#### 1) Thermal head

The thermal head is composed of 2,016 heating elements in traverse line, and the resolution power is 8 dots/mm. The maximum speed is 10 ms/line.

#### 2) Structure of recording mechanism

Recording is achieved by applying a suitable pressure to the thermal head through the imaging film of the recording paper feed roller and the recording paper.
The main scanning is electronically done, and the sub-scanning is me chanically done (by sending the recording paper with the recording paper feed roller).

#### 3) Recording paper transfer sequence

a) The recording paper stored in the RP hopper is fed with the PU roller, and the recording paper is stopped when the P-IN sensor is turned on by sensing its lead edge.

b) Hereafter, the imaging film and recording paper are transferred with the recording paper feed roller, and thermal transcription is done on the recording paper.

c) After thermal transcription, the imaging film is taken up by the roller on the take-up side, and the recording paper is discharged by the PO roller.

As basic, the density unevenness mainly results from the longitudinal misalignment of the thermal head to the heater line. Otherwise, the head is in uneven contact with the recording paper feed roller, or the imaging film is wrinkled.

The following items are described as the simplified checking method.

① Are the power and signal cables of the thermal head suitably treated?

② Does the same symptom appear even if the thermal head pres-sure spring is replaced?

③ Is the feed roller of the recording paper concentric? (Density is uneven at intervals.)

④ Does the same symptom appear even if the thermal head is replaced?

⑤ Is the imaging film stained or wrinkled?

## [2] Disassembly and assembly procedures

- This chapter mainly describes the disassembly procedures. For the assembly procedures, reverse the disassembly procedures.
- Easy and simple disassembly/assembly procedures of some parts and units are omitted. For disassembly and assembly of such parts and units, refer to the Parts List.
- The numbers in the illustration, the parts list and the flowchart in a same section are common to each other.
- To assure reliability of the product, the disassembly and the assembly procedures should be performed carefully and deliberately.

### 1 Bottom plate

Parts list (Fig. 1)

| No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|
| 1 | Mechanism unit | 1 | 3 | Screw (3×5) | 2 |
| 2 | Screw (3×10) | 9 | 4 | Head earth cable | 1 |
| | | | 5 | Bottom plate | 1 |

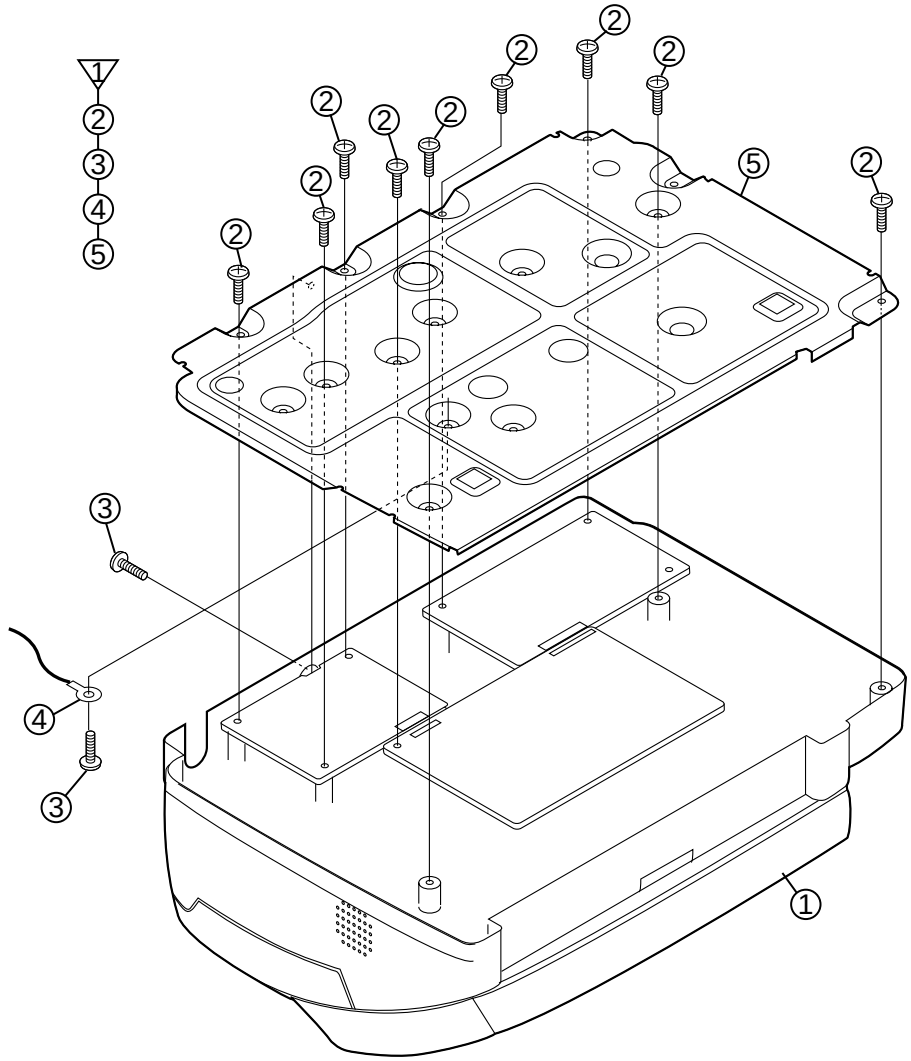



Fig. 1

## 2 PWB's, drive unit, AC cord ass'y and speaker

Parts list (Fig. 2)

| No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|
| 1 | Mechanism unit | 1 | 7 | Screw (4×6) | 1 |
| 2 | Connector | 2 | 8 | AC cord ass'y | 1 |
| 3 | Cable | 6 | 9 | Screw (3×10) | 2 |
| 4 | Control PWB unit | 1 | 10 | Drive unit | 1 |
| 5 | TEL/Liu PWB unit | 1 | 11 | Speaker hold spring | 1 |
| 6 | Power supply PWB unit | 1 | 12 | Speaker | 1 |

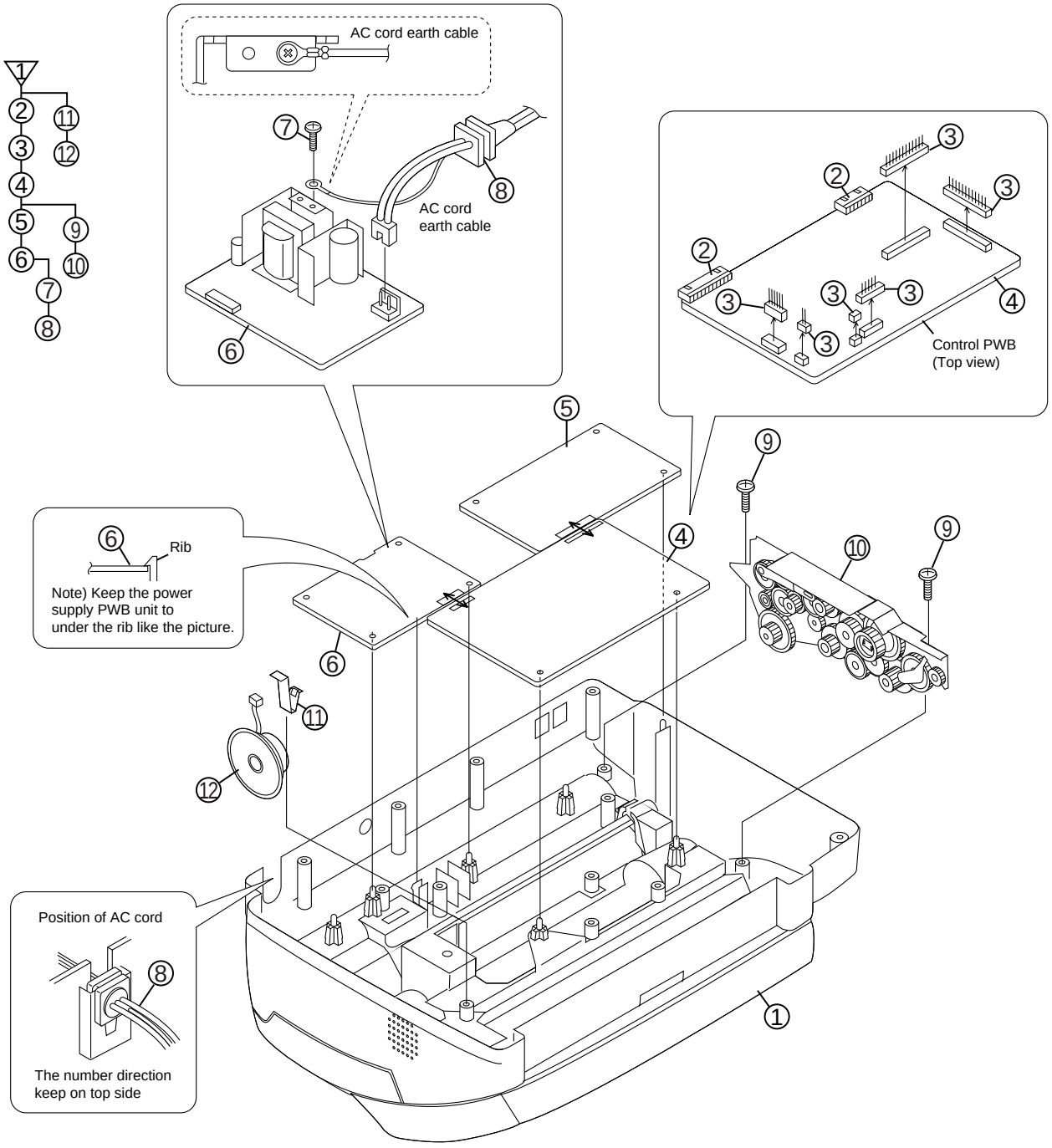
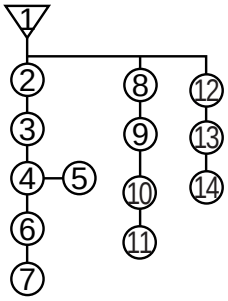



Fig. 2

## 3 Paper roller etc. and sensor lever

Parts list (Fig. 3)

| No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|
| 1 | Mechanism unit | 1 | 8 | Platen lock bracket | 1 |
| 2 | Sheet A | 1 | 9 | Platen lock lever, left | 1 |
| 3 | P-IN sensor lever B | 1 | 10 | Platen lock lever, right | 1 |
| 4 | PE sensor lever B | 1 | 11 | Platen lock lever spring | 1 |
| 5 | PE sensor lever spring B | 1 | 12 | PO roller | 1 |
| 6 | Screw (3×10) | 1 | 13 | Transfer bearing | 2 |
| 7 | BT gear ass'y | 1 | 14 | Back roller gear | 1 |



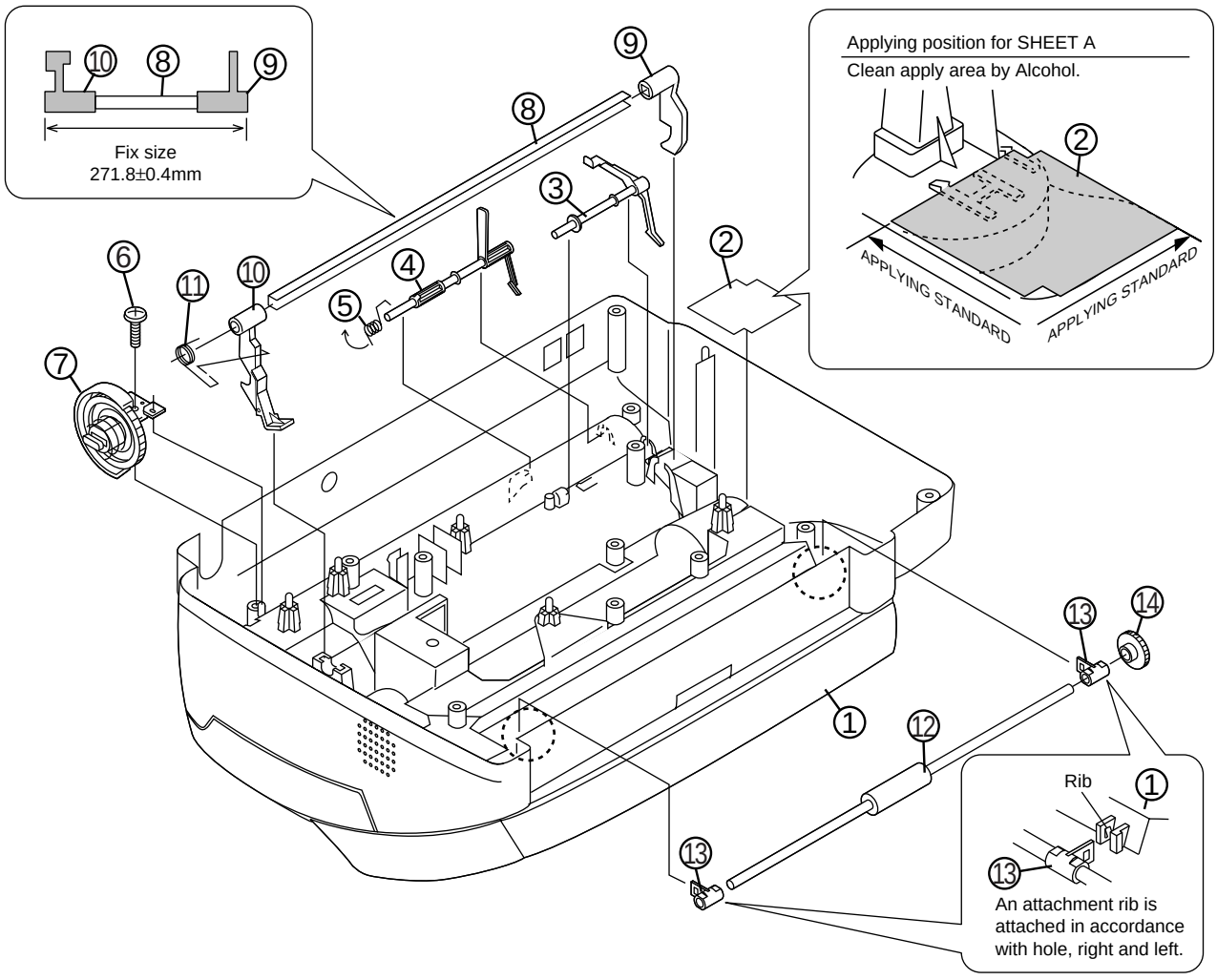




Fig. 3

## 4 Drive frame

Parts list (Fig. 4)

| No. | Part name | Q'ty | No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|---|---|---|
| 1 | Screw (3×10) | 2 | 9 | Idler gear, 52Z | 1 | 17 | Reduction gear, 4 | 1 |
| 2 | Motor | 1 | 10 | Reduction gear, 3 | 1 | 18 | Planet gear lever C ass'y | 1 |
| 3 | Motor plate | 1 | 11 | Reduction gear, 2 | 1 | 19 | Planet gear lever B ass'y | 1 |
| 4 | Take up gear | 1 | 12 | Reduction gear, 5 | 1 | 20 | Reduction gear, 1 | 1 |
| 5 | Slip gear ass'y | 1 | 13 | Reduction gear C | 1 | 21 | Cam hold spring | 1 |
| 6 | Reduction gear, 6 | 1 | 14 | Link lever | 1 | 22 | Cam A | 1 |
| 7 | Planet gear lever D ass'y | 1 | 15 | Planet gear lever A ass'y | 1 | 23 | Cam B | 1 |
| 8 | Idler gear B | 1 | 16 | Idler gear, 30Z | 3 | 24 | Cam switch | 1 |
| | | | | | | 25 | Drive frame | 1 |

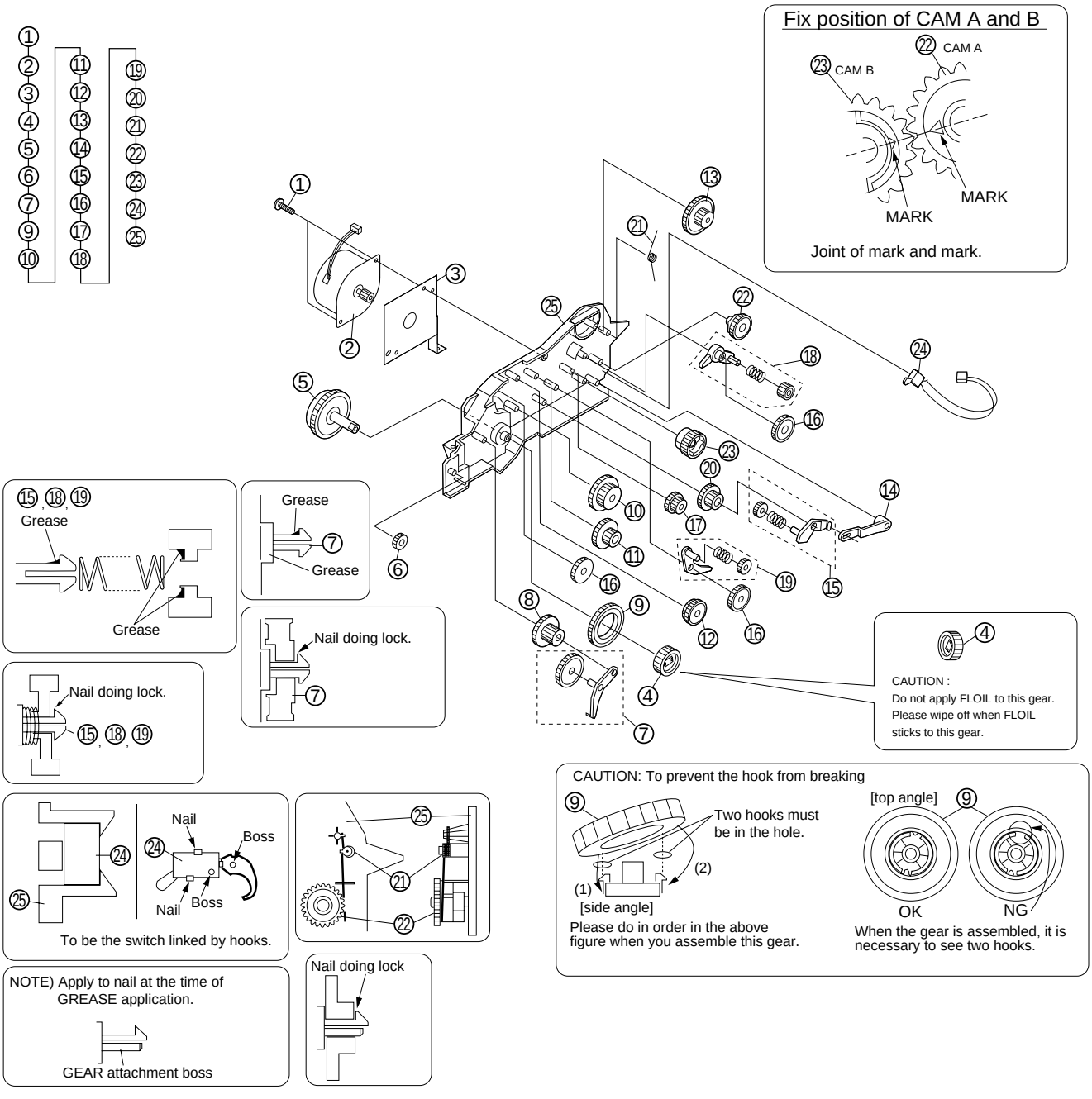
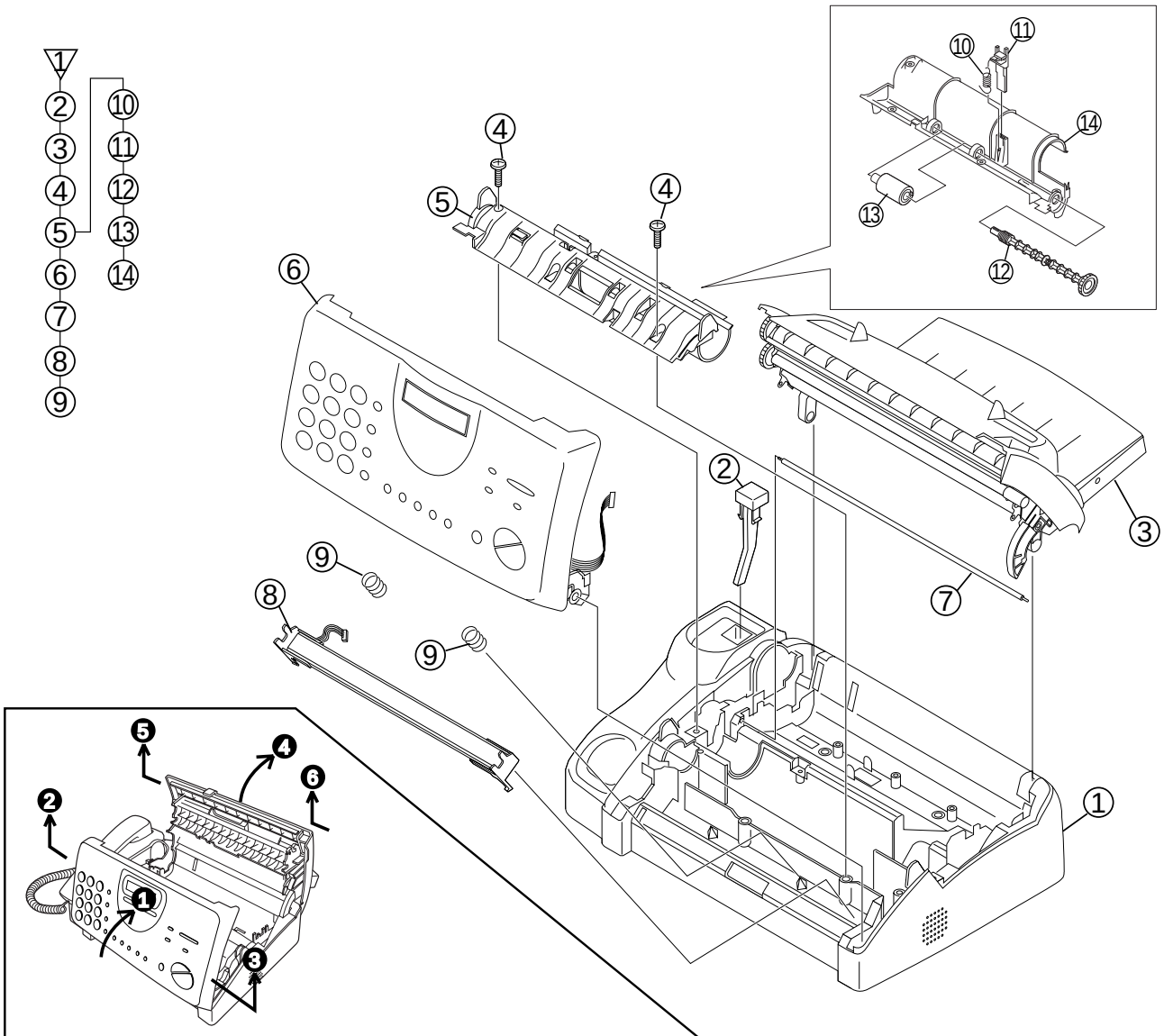



Fig. 4

## 5 Sub frame unit, original paper guide, operation panel unit and CIS unit

Parts list (Fig. 5)

| No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|
| 1 | Mechanism unit | 1 | 8 | CIS unit | 1 |
| 2 | Hook switch lever | 1 | 9 | CIS spring | 2 |
| 3 | Sub frame unit | 1 | 10 | Cover switch spring | 1 |
| 4 | Screw (3×10) | 2 | 11 | Cover switch lever | 1 |
| 5 | Original paper guide unit | 1 | 12 | Feed roller shaft | 1 |
| 6 | Operation panel unit | 1 | 13 | Feed roller | 1 |
| 7 | Film guide shaft | 1 | 14 | Orignal paper guide | 1 |







**Operation panel unit disassembly**

❶ Close the operation panel unit from the FULL OPEN position.
❷ Shift the operation panel unit to the left side, and remove the left-side fulcrum.
❸ Shift the operation panel unit to the right side, and remove the right-side fulcrum.

**Sub frame unit disassembly**

❹ Fully open the sub frame unit.
❺ Shift the sub frame unit to the left side, and remove the left-side fulcrum.
❻ Shift the sub frame unit to the left side, and remove the right-side fulcrum.

Fig. 5

## 6 Upper cabinet and document guide upper unit

Parts list (Fig. 6)

| No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|
| 1 | Screw (3×8) | 2 | 6 | Operation panel PWB | 1 |
| 2 | Document guide upper unit | 1 | 7 | Direct key | 1 |
| | | | 8 | Mode key | 1 |
| 3 | Operation panel unit | 1 | 9 | Stop key | 1 |
| 4 | Screw (2×6) | 5 | 10 | Start key | 1 |
| 5 | Cable | 1 | 11 | 12 key | 1 |
| | | | 12 | Upper cabinet | 1 |

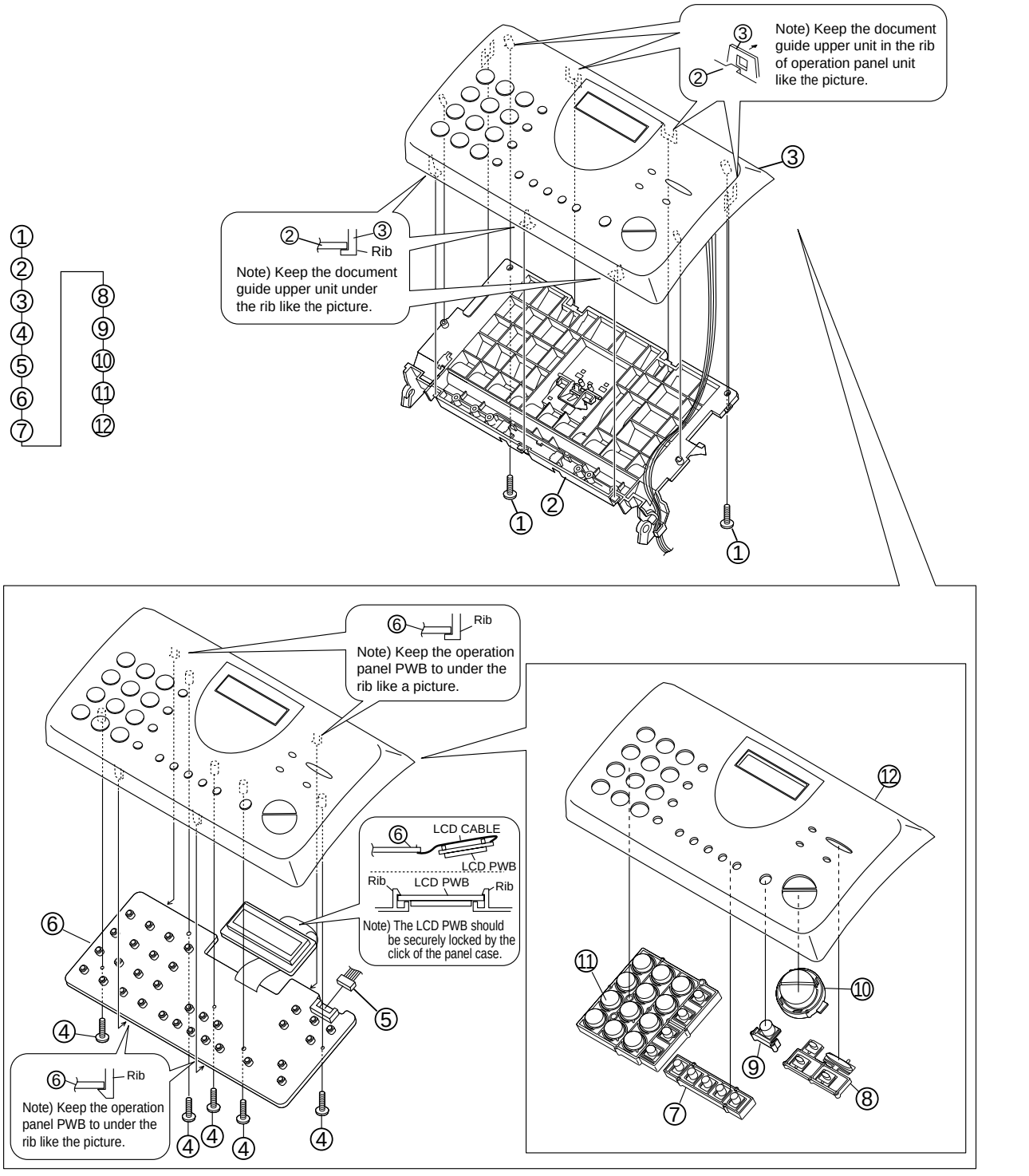



Fig. 6

## 7 Document guide upper

Parts list (Fig. 7)

| No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|
| 1 | Back roller gear | 1 | 7 | Separate spring | 1 |
| 2 | Transfer bearing | 1 | 8 | Separator plate | 1 |
| 3 | Back roller | 1 | 9 | Paper feed spring | 1 |
| 4 | Pinch roller spring | 2 | 10 | Separator rubber | 1 |
| 5 | Pinch roller | 2 | 11 | Guide roller | 1 |
| 6 | Pinch roller shaft | 1 | 12 | Document guide upper | 1 |

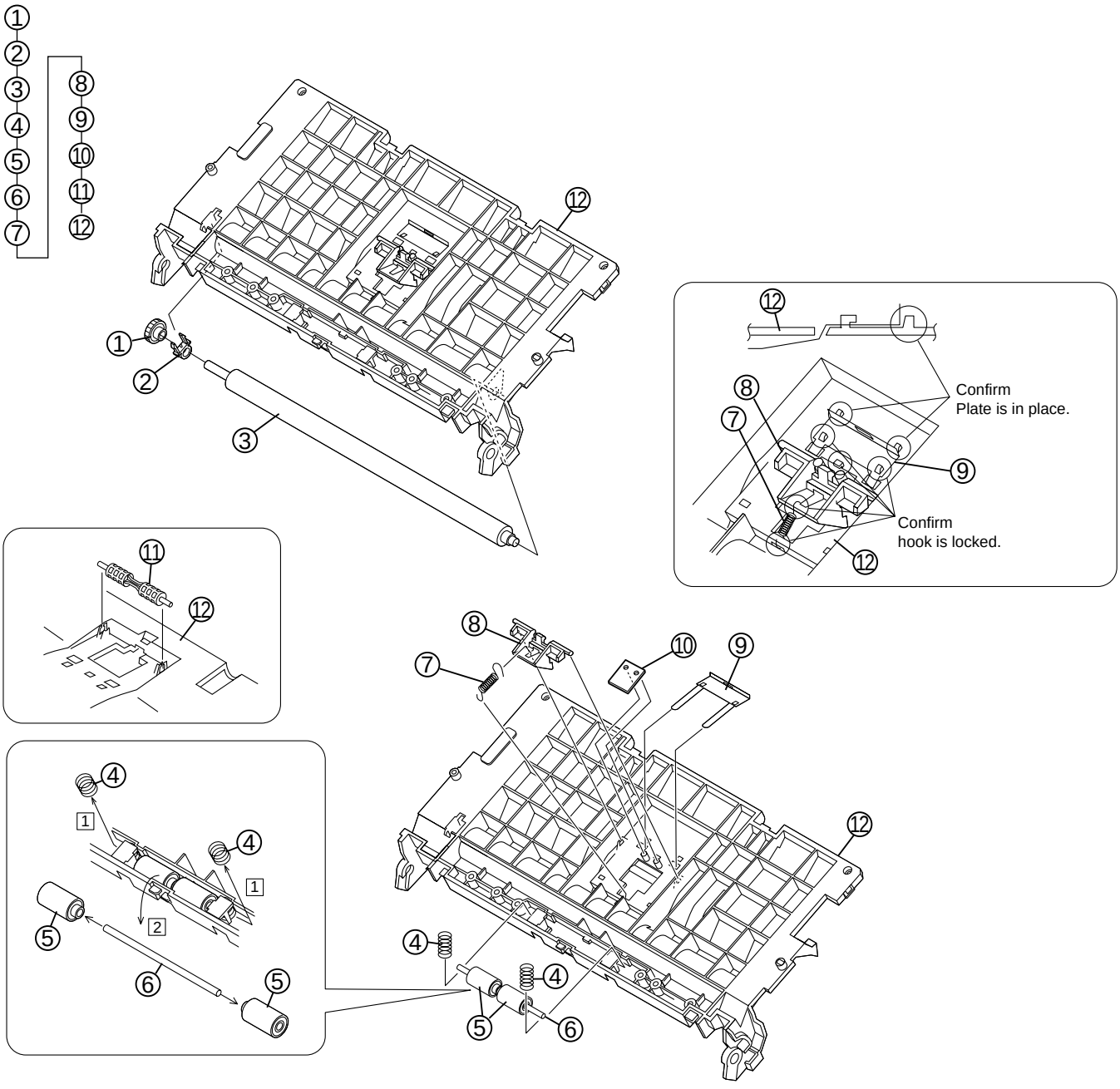



Fig. 7

## 8 Sub frame, top cover unit RP hopper unit

Parts list (Fig. 8)

| No. | Part name | Q'ty | No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|---|---|---|
| 1 | Top cover unit | 1 | 10 | PO guide ass'y | 1 | 19 | Platen bearing, left | 1 |
| 2 | Screw (3×10) | 2 | 11 | PO pinch roller spring | 2 | 20 | Platen bearing, right | 1 |
| 3 | Sub frame unit | 1 | 12 | PO pinch roller | 2 | 21 | Platen roller | 1 |
| 4 | Screw (3×10) | 2 | 13 | PO guide | 1 | 22 | PU shaft | 1 |
| 5 | RP hopper unit | 1 | 14 | PE sensor lever | 1 | 23 | PU roller ass'y | 1 |
| 6 | Sub frame ass'y | 1 | 15 | PO gear | 1 | 24 | P-IN sensor lever spring | 1 |
| 7 | Screw (3×10) | 1 | 16 | PO roller ass'y | 1 | 25 | P-IN sensor lever | 1 |
| 8 | Tension gear | 1 | 17 | Film guide shaft | 1 | 26 | Sub frame | 1 |
| 9 | Tension spring | 1 | 18 | Platen gear | 1 | 27 | PO roller rubber | 2 |
| | | | | | | 28 | PO roller shaft | 1 |

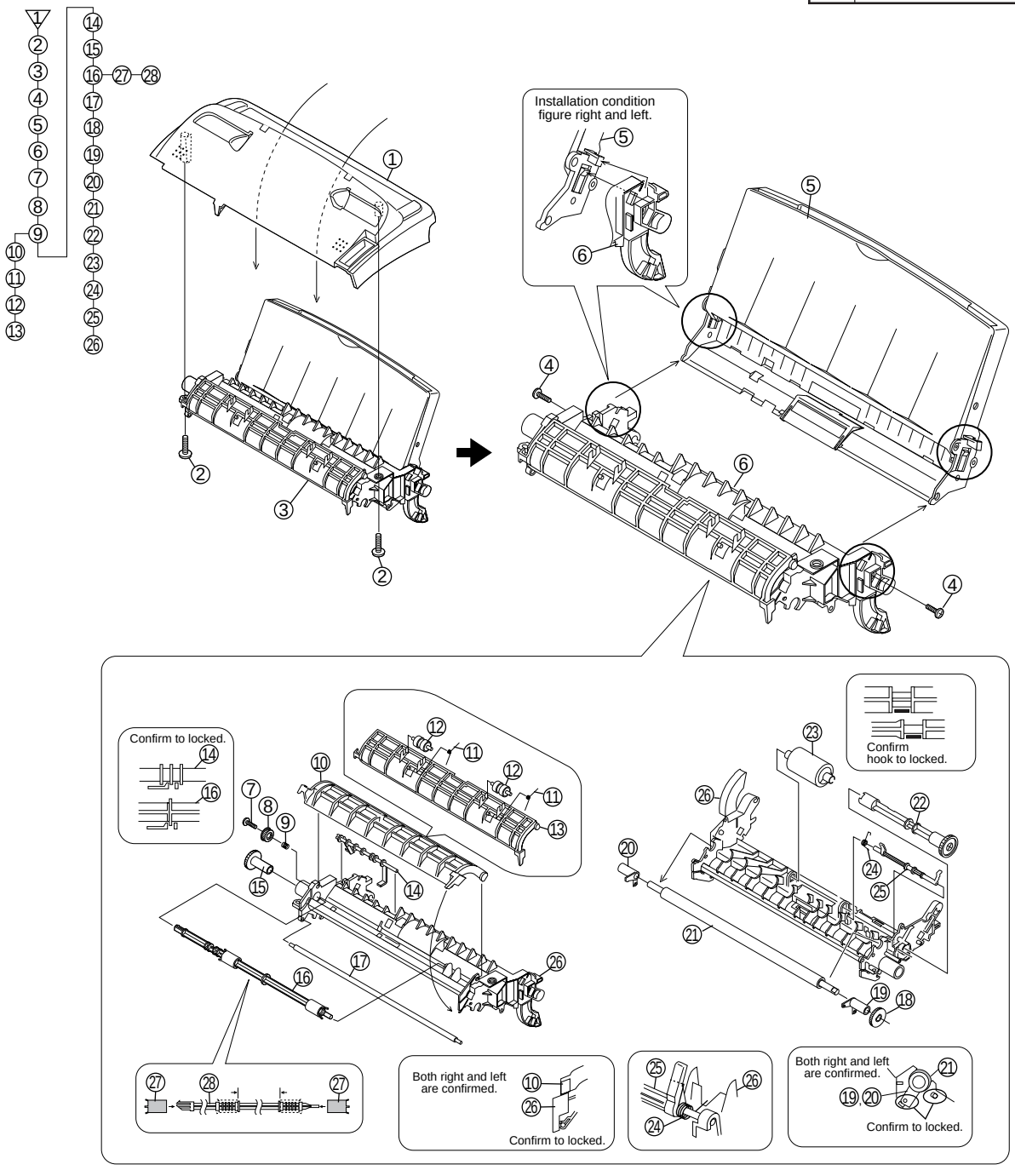



Fig. 8

## 9 Top cover and RP hopper

Parts list (Fig. 9)

| No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|
| 1 | Release knob | 1 | 9 | RP release plate | 1 |
| 2 | Screw | 1 | 10 | Rotation plate | 1 |
| 3 | Pinion gear | 1 | 11 | RP pad | 1 |
| 4 | Hopper spring | 1 | 12 | C-spring | 1 |
| 5 | Hopper guide, right | 1 | 13 | Separate plate | 1 |
| 6 | Hopper guide, left | 1 | 14 | Separate plate sheet | 1 |
| 7 | TC sheet | 1 | 15 | Separate spring | 1 |
| 8 | Top cover | 1 | 16 | A4 paper guide | 1 |
| | | | 17 | RP hopper | 1 |

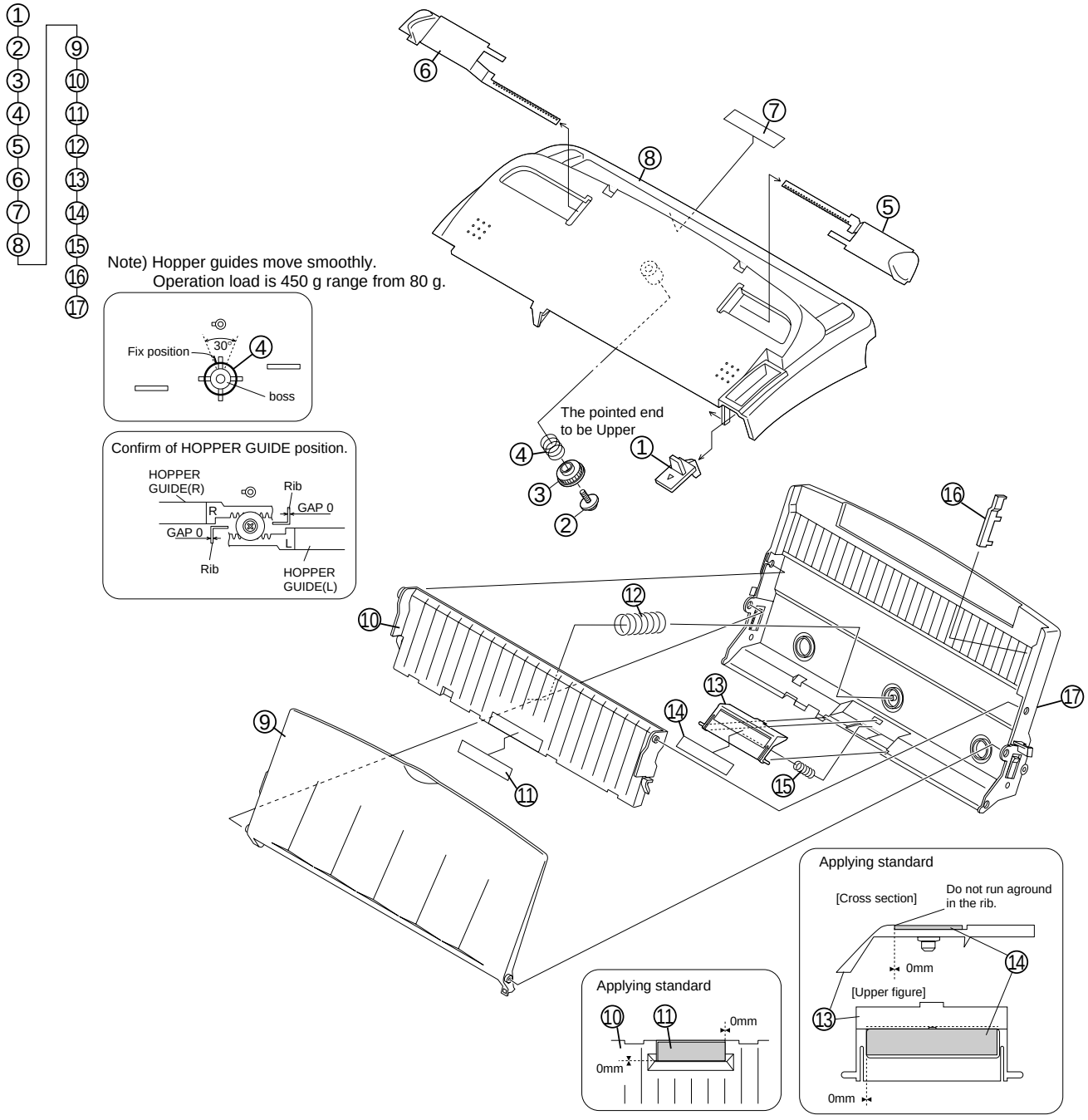



Fig. 9

## 10 Thermal head

Parts list (Fig. 10)

| No. | Part name | Q'ty | No. | Part name | Q'ty |
|---|---|---|---|---|---|
| 1 | Mechanism unit | 1 | 12 | Thermal head ass'y | 1 |
| 2 | Screw (3×10) | 1 | 13 | Head spring E | 2 |
| 3 | Head cover | 1 | 14 | Head spring B | 2 |
| 4 | Screw (3×10) | 2 | 15 | Head spring F | 1 |
| 5 | Head earth cable | 1 | 16 | Head cushion | 2 |
| 6 | Head unit | 1 | 17 | Head frame | 1 |
| 7 | Film sensor lever spring | 1 | 18 | Head cable | 1 |
| 8 | Film sensor lever | 1 | 19 | Screw (3×6) | 1 |
| 9 | Screw (3×10) | 2 | 20 | Head guide, right | 1 |
| 10 | Panel lock lever spring | 2 | 21 | Screw (3×6) | 1 |
| 11 | Head spring D | 2 | 22 | Head guide, left | 1 |
| | | | 23 | Thermal head | 1 |

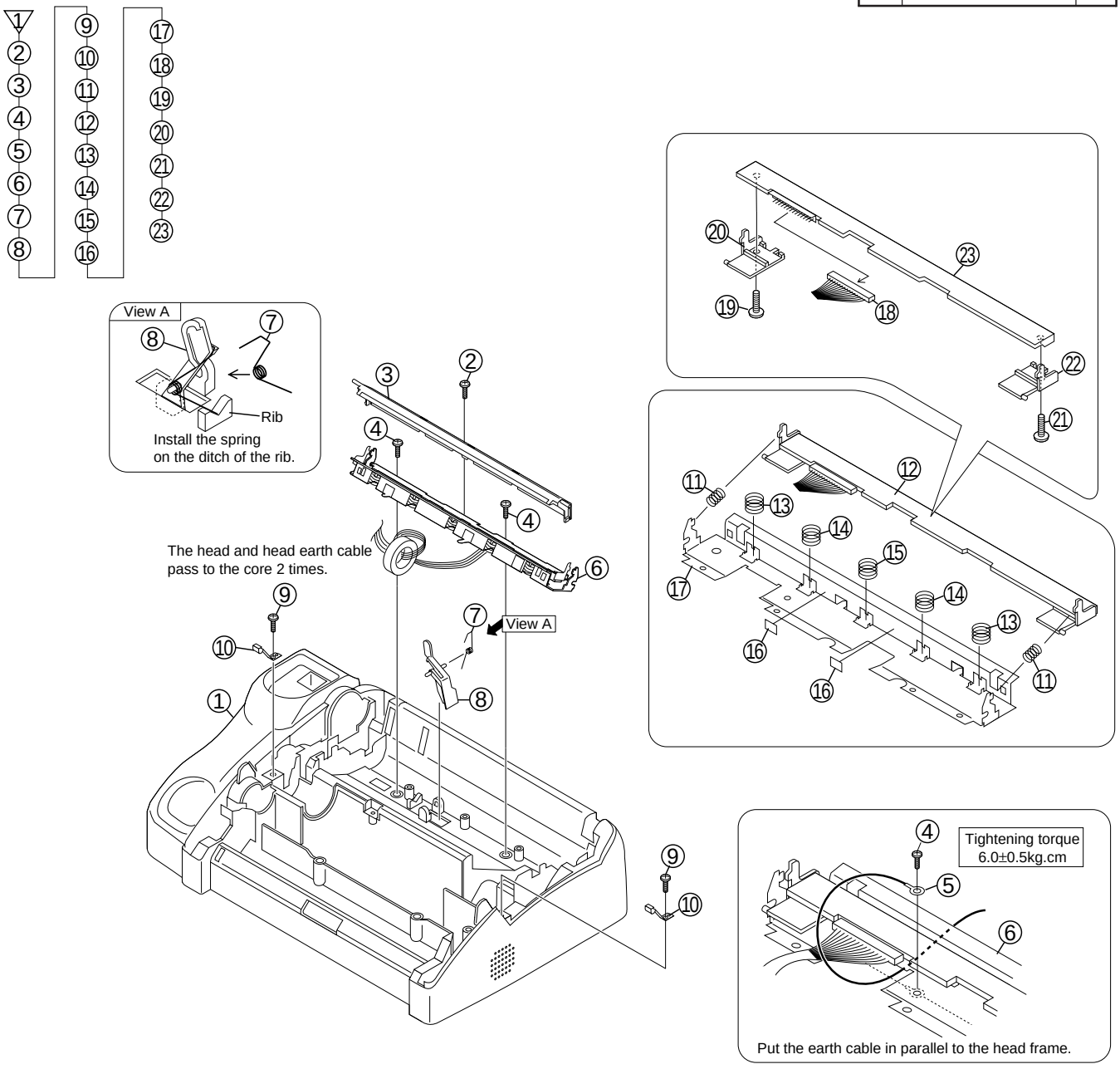



Fig. 10

## 11 Wire treatment

Parts list (Fig. 11)

| No. | Part name | Q'ty |
|---|---|---|
| 1 | Screw (3×10) | 1 |
| 2 | Screw (4×6) | 1 |
| 3 | Core (F2125) | 1 |
| 4 | Screw (3×5) | 1 |

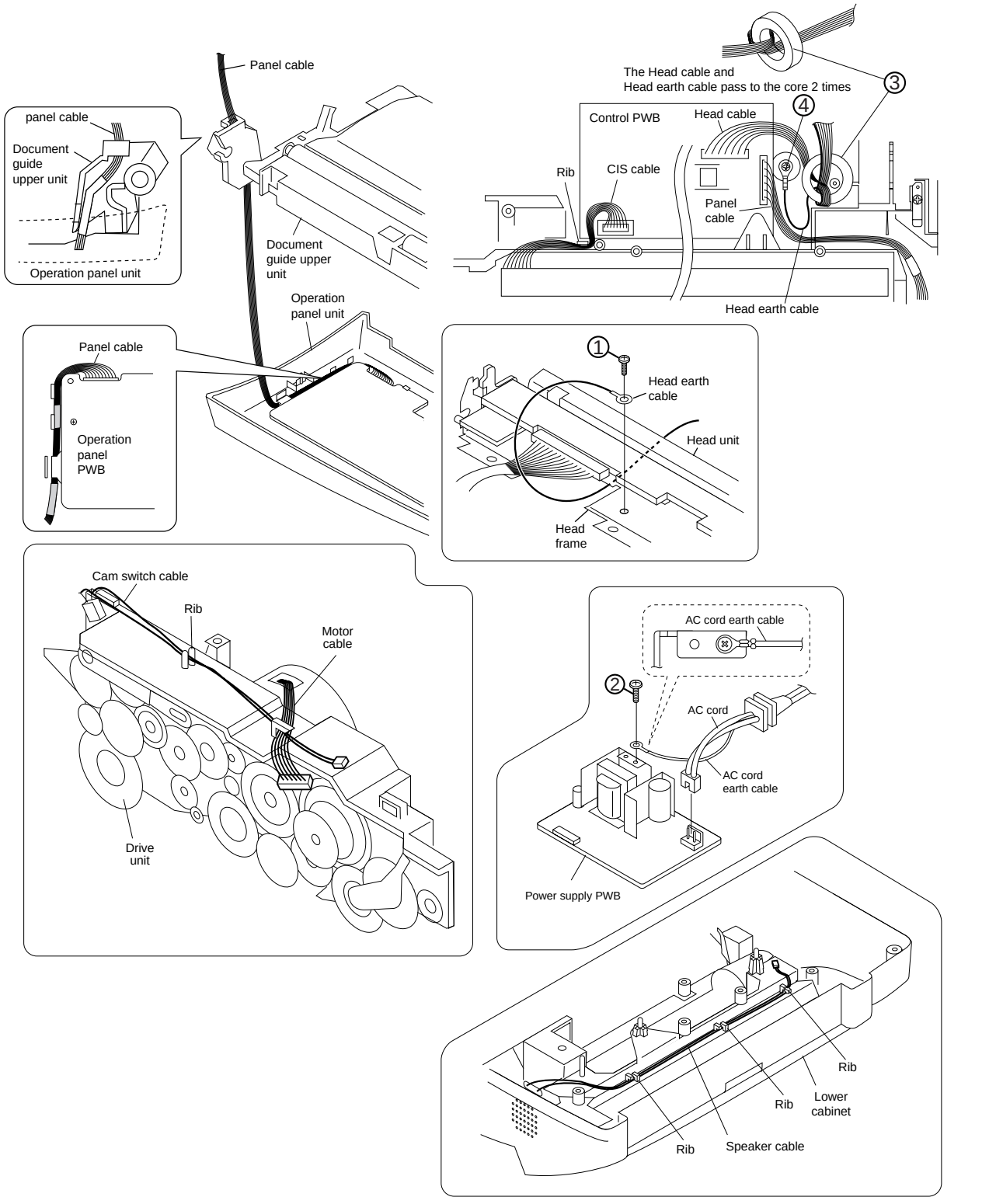
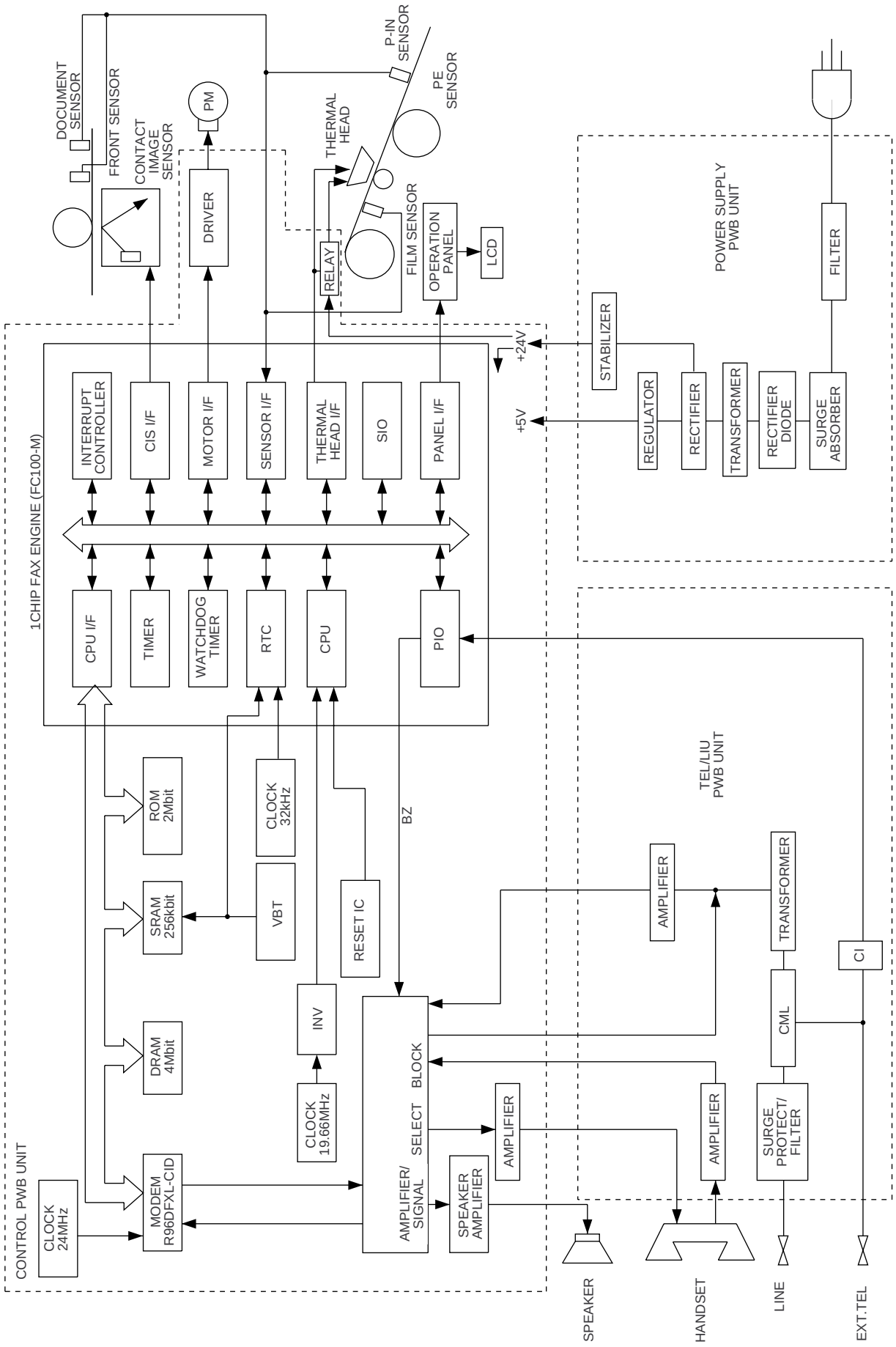


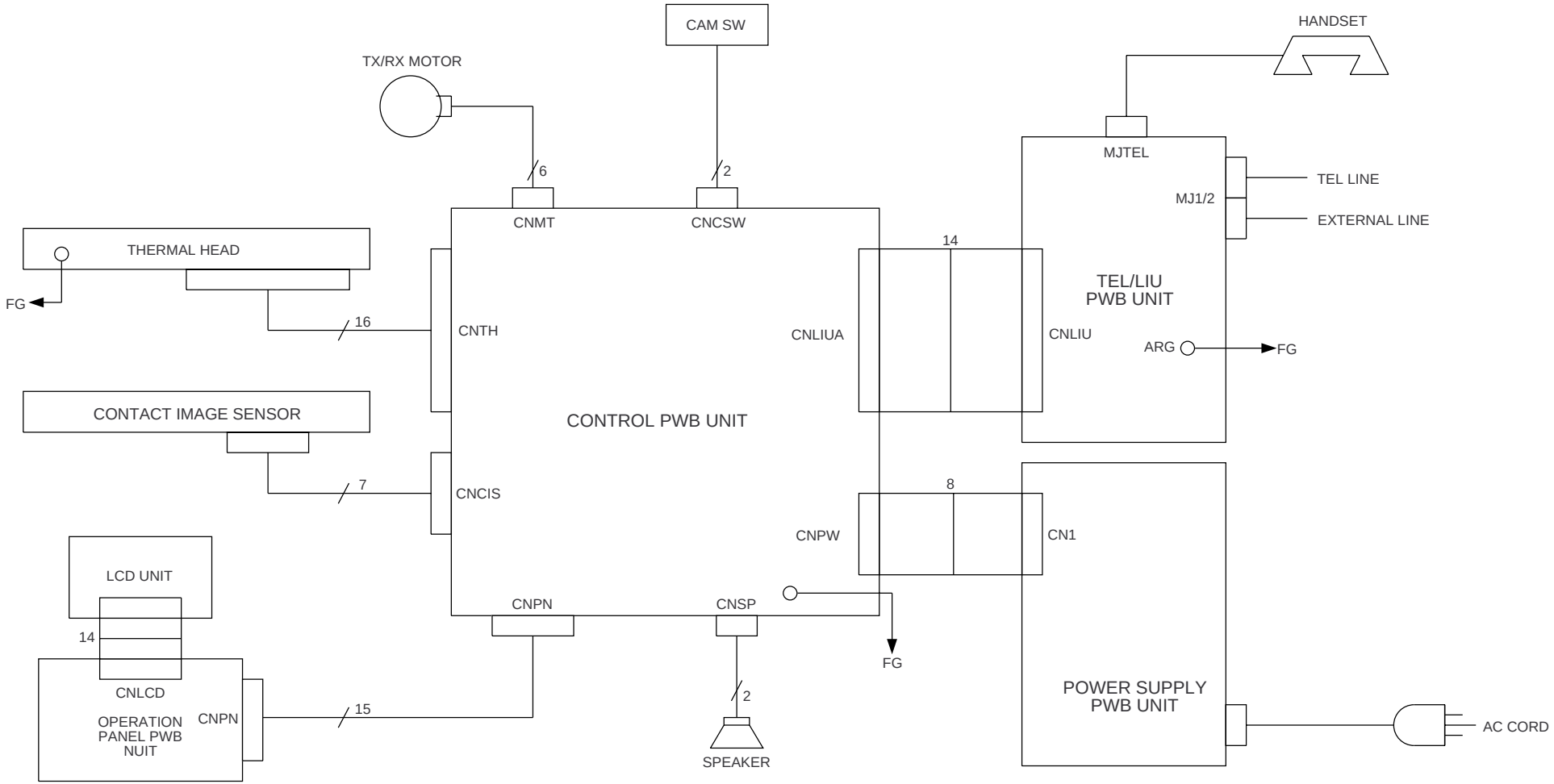

Fig. 11

# CHAPTER 4. DIAGRAMS

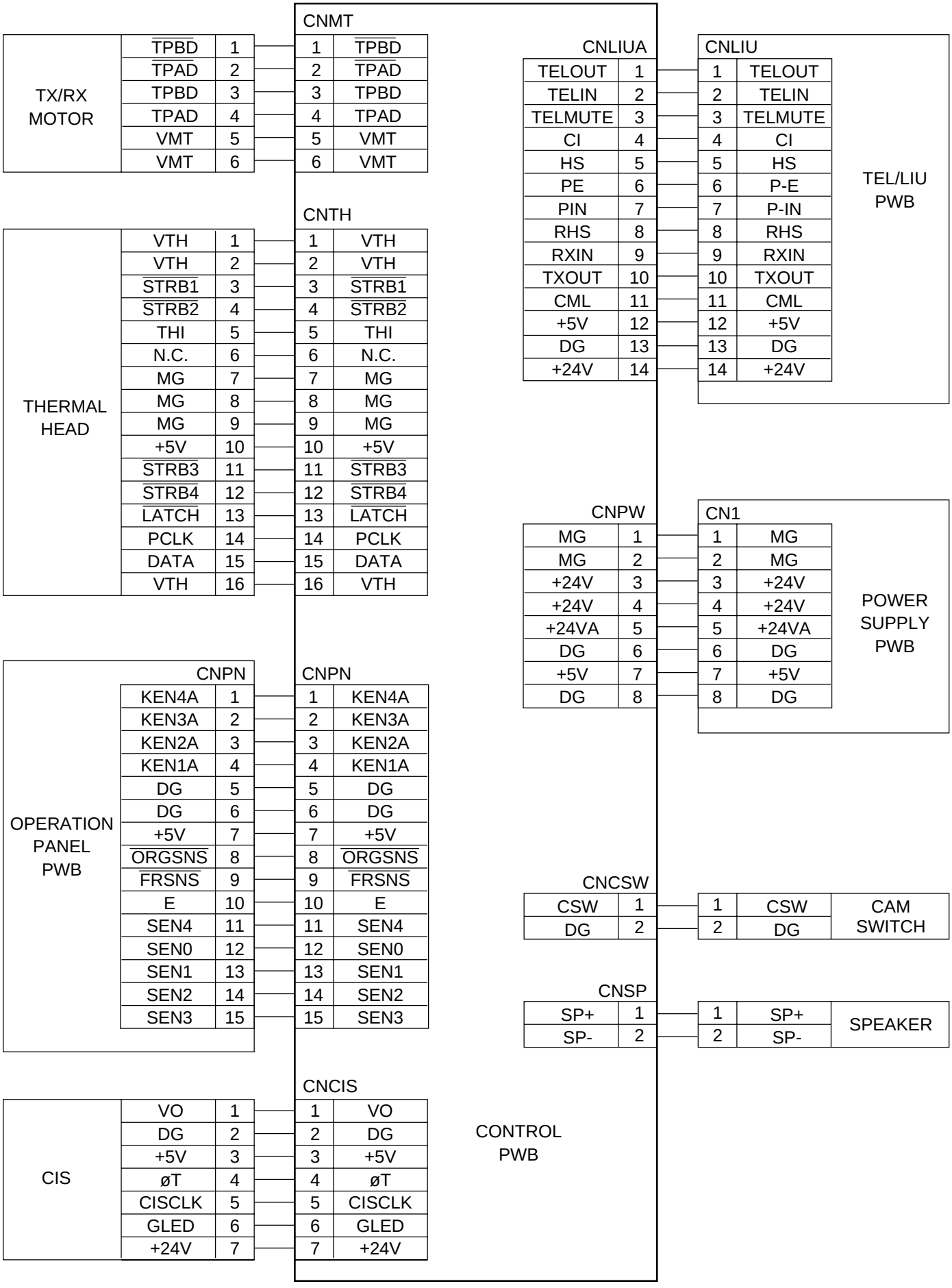
## [1] Block diagram



## [2] Wiring diagram



## [3] Point- to-point diagram



# CHAPTER 5. CIRCUIT DESCRIPTION

## [1] Circuit description

### 1. General description

The compact design of the control PWB is obtained by using ROCKWELL (CONEXANT) fax engine in the main control section and high density printing of surface mounting parts. Each PWB is independent according to its function as shown in Fig. 1.

### 2. PWB configuration

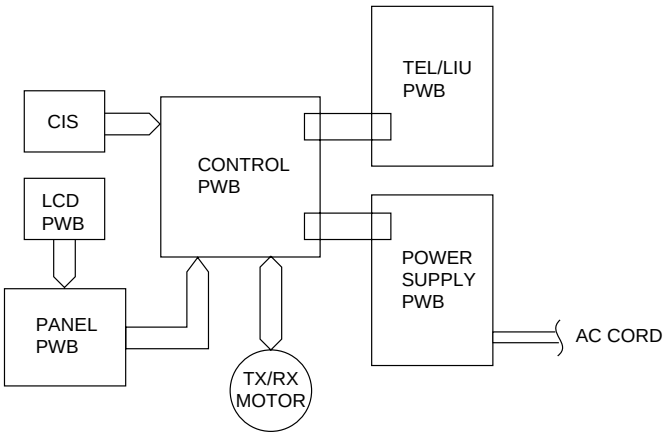



Fig. 1

#### 1) Control PWB

The control PWB controls peripheral PWBs, mechanical parts, transmission, and performs overall control of the unit.
This machine employs a 1-chip modem (R96DFXL-CID) which is installed on the control PWB.

#### 2) TEL/LIU PWB

This PWB controls connection of the telephone line to the unit.

#### 3) Power supply PWB

This PWB provides voltages of +5V and +24V to the other PWBs.

#### 4) Panel PWB

The panel PWB allows input of the operation keys.

#### 5) LCD PWB

This PWB controls the LCD display.

### 3. Operational description

Operational descriptions are given below:

- Transmission operation

  When a document is loaded in standby mode, the state of the document sensor is sensed via the 1 chip fax engine (FC100M). If the sensor signal was on, the motor is started to bring the document into the standby position. With depression of the START key in the off-hook state, transmission takes place.
  Then, the procedure is sent out from the modem and the motor is rotated to move the document down to the scan line. In the scan processor, the signal scanned by the CIS is sent to the internal image processor and the AD converter to convert the analog signal into binary data. This binary data is transferred from the scan processor to the image buffer within the RAM and encoded and stored in the transmit buffer of the RAM. The data is then converted from parallel to serial form by the modem where the serial data is modulated and sent onto the line.

- Receive operation

  There are two ways of starting reception, manual and automatic.
  Depression of the START key in the off-hook mode in the case of manual receive mode, or CI signal detection by the LIU in the automatic receive mode.

  First, the FC100M controls the procedure signals from the modem to be ready to receive data. When the program goes into phase C, the serial data from the modem is converted to parallel form in the modem interface of the 1 chip fax engine (FC100M) which is stored in the receive buffer of the RAM. The data in the receive buffer is decoded software-wise to reproduce it as binary image data in the image buffer. The data is DMA transferred to the recording processor within the FC100M which is then converted from parallel to serial form to be sent to the thermal head. The data is printed line by line by the FC100M which is assigned to control the motor rotation and strobe signal.

- Copy operation

  To make a copy on this facsimile, the COPY key is pressed when the machine is in stand-by with a document on the document table and the telephone set is in the on-hook state.

  First, depression of the COPY key advances the document to the scan line. Similar to the transmitting operation, the image signal from the CIS is converted to a binary signal in the DMA mode via the 1 chip fax engine (FC100M) which is then sent to the image buffer of the RAM. Next, the data is transferred to the recording processor in the DMA mode to send the image data to the thermal head which is printed line by line. The copying takes place as the operation is repeated.

# [2] Circuit description of control PWB

## 1. General description

Fig. 2 shows the functional blocks of the control PWB, which is composed of 5 blocks.

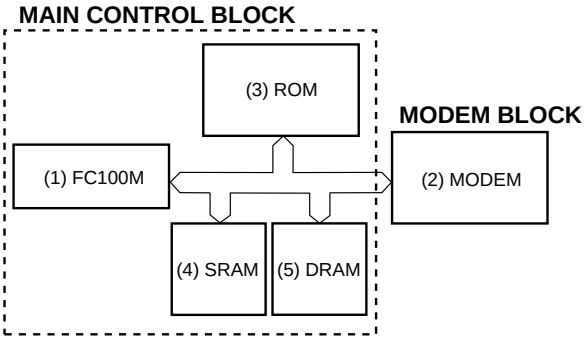



Fig. 2 Control PWB functional block diagram

## 2. Description of each block

### (1) Main control block

The main control block is composed of ROCKWELL (CONEXANT) 1 chip fax engine (FC100M), ROM (2Mbit), SRAM (256Kbit), DRAM (4Mbit) and Modem (R96DFXL-CID).
Devices are connected to the bus to control the whole unit.

**1) FC100M (IC9) : pin-144 QFP (FAX CONTROLLER)**

**2) R96DFXL-CID (IC6) : pin-100 QFP (MODEM)**

The FAXENGINE Integrated Facsimile Controllers.

FC100M, contains an internal 8 bit microprocessor with an external 2 Mbyte address space and dedicated circuitry optimized for facsimile image processing and facsimile machine control and monitoring.

**3) 27C020 (IC4): pin-32 DIP (ROM)**

ROM of 2Mbit equipped with software for the main CPU.

**4) W24258S-70LE (IC3): pin-28 SOP (SRAM)**

Line memory for the main CPU system RAM area and coding/decoding process. Used as the transmission buffer.

Memory of recorded data such as daily report and auto dials. When the power is turned off, this memory is backed up by the lithium battery.

**5) M514800C-70J (IC1): pin-28 SOJ (DRAM)**

Image memory for recording process.

• Memory for recording pixel data without paper.

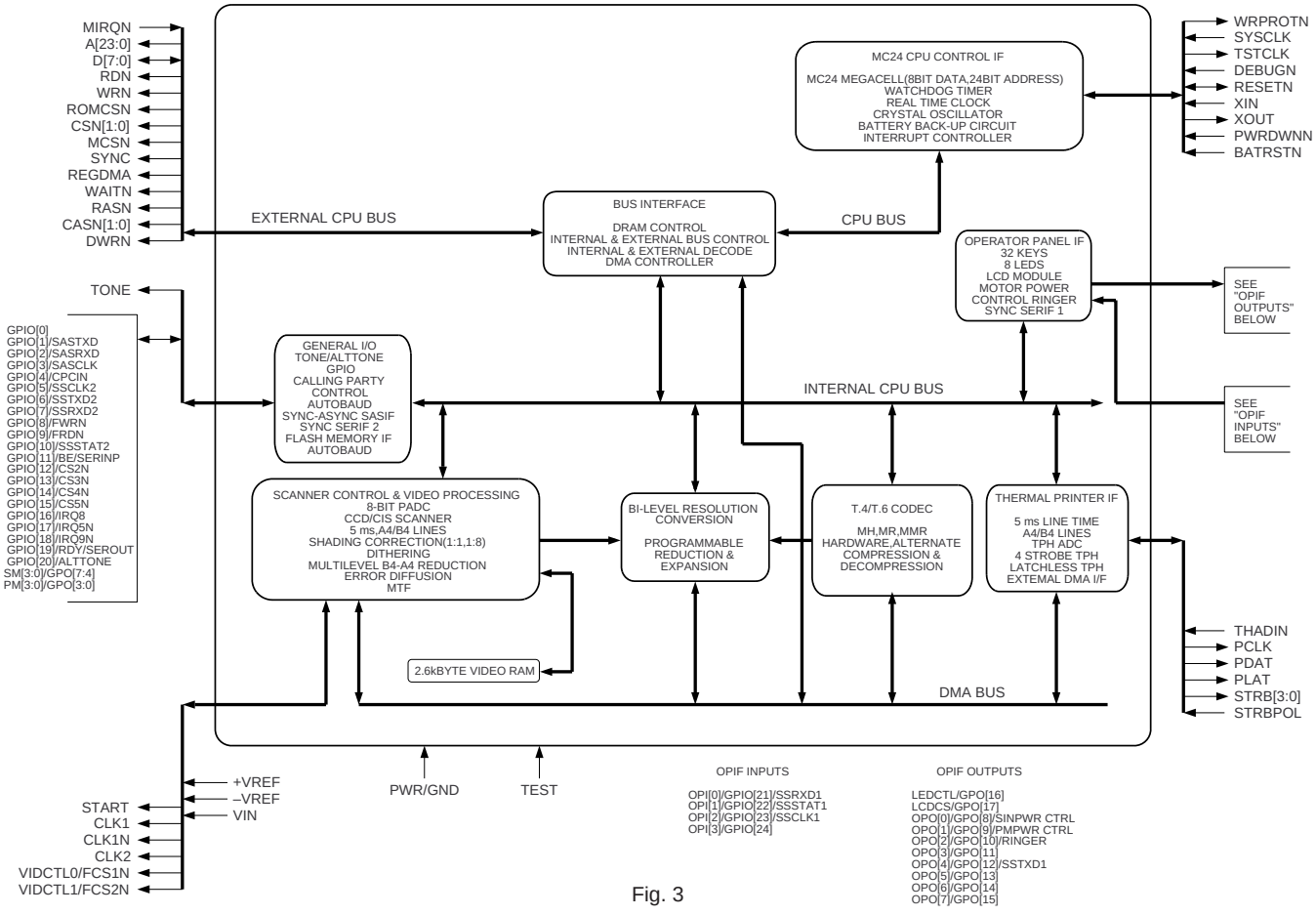



Fig. 3

**FC100M (IC9) Terminal descriptions**

| Pin Name | Pin No. | I/O | Input Type | Output Type | Pin Description (Note: Active low signals have an "n" pin name ending.) |
|---|---|---|---|---|---|
| CPU Control Interface | | | | | |
| MIRQn | 135 | I | HU | – | Modem interrupt, active low. (Hysteresis In, Internal Pullup.) |
| SYSCLK | 133 | I | H | – | System clock. (Hysteresis In.) |
| TSTCLK | 130 | O | – | 123XT | Test clock. |
| Bus Control Interface | | | | | |
| A[23:0] | [1:6][8:13] [15:20][22:27] | O | TU | 123XT | Address bus (24-bit). |
| D[7:0] | [136:139] [141:144] | I/O | TU | 123XT | Data bus (8-bit). |
| RDn | 128 | O | – | 123XT | Read strobe. |
| WRn | 127 | O | – | 123XT | Write strobe. |
| ROMCSn | 120 | O | – | 123XT | ROM chip select. |
| CS1n | 122 | O | – | 123XT | I/O chip select. |
| CS0n | 57 | O | – | 123XT | SRAM chip select. (Battery powered.) |
| MCSn | 121 | O | – | 123XT | Modem chip select. |
| SYNC | 126 | O | – | 123XT | Indicates CPU op code fetch cycle (active high). |
| REGDMA | 124 | O | – | 123XT | Indicates REGSEL cycle and DMA cycle. |
| WAITn | 125 | O | – | 123XT | Indicates current TSTCLK cycle is a wait state or a halt state. |
| RASn | 113 | O | – | 123XT | DRAM row address select. (Battery powered.) |
| CAS[1:0]n | [111:112] | O | – | 123XT | DRAM column address select. (Battery powered.) |
| DWRn | 109 | O | – | 123XT | DRAM write. (Battery powered.) |
| Prime Power Reset Logic and Test | | | | | |
| DEBUGn | 129 | I | HU | – | External non-maskable input (NMI). |
| RESETn | 131 | I/O | HU | 2XO | FC100/FC200 Reset. |
| TEST | 58 | I | C | – | Sets Test mode (Battery powered). |
| Battery Power Control and Reset Logic | | | | | |
| XIN | 59 | I | OSC | – | Crystal oscillator input pin. |
| XOUT | 60 | O | – | OSC | Crystal oscillator output pin. |
| PWRDWNn | 62 | I | H | – | Used by external system to indicate -to FC100/FC200 - loss of prime power. (Results in NMI) |
| BATRSTn | 61 | I | H | – | Battery power reset input. |
| WRPROTn | 110 | O | – | 1XC | (Battery powered.) Write protect during loss of VDD power. NOTE:The functional logic is powered by battery power, but the output drive is powered by DRAM battery power. |
| Scanner Interface | | | | | |
| START | 101 | O | – | 2XS | Scanner shift gate control. |
| CLK1 | 100 | O | – | 2XS | Scanner clock. |
| CLK1n | 99 | O | – | 2XS | Scanner clock-inverted. |
| CLK2 | 98 | O | – | 2XS | Scanner reset gate control (or clock for CIS scanner). |
| FCS1n/VIDCTL0 | 96 | O | – | 2XT | Flash memory chip select or Video Control signal. |
| FCS2n/VIDCTL1 | 97 | O | – | 2XT | Flash memory chip select or Video Control signal. |
| Printer Interface | | | | | |
| PCLK/DMAACK | 29 | O | – | 3XC | Thermal Print Head (TPH) clock, or external DMAACK. |
| PDAT | 30 | O | – | 2XP | Serial printing data (to TPH). |
| PLAT | 31 | O | – | 3XP | TPH data latch. |
| STRB[3:0] | [33:36] | O | – | 1XP | Strobe signals for the TPH. |
| STRBPOL/DMAREQ | 37 | I | C | – | Sets strobe polarity, active high/low or external DMA request. |
| Operator Panel Interface | | | | | |
| OPO[0]/GPO[8]/ SMPWRCTRL | 47 | O | – | 2XL | Keyboard/LED strobe [0] or GPO[8] or Scan Motor Power Control |
| OPO[1]/GPO[9]/ PMPWRCTRL | 46 | O | – | 2XL | Keyboard/LED strobe [1] or GPO[9] or Print Motor Power Control |
| OPO[2]/GPO[10]/ RINGER | 44 | O | – | 2XCT | Keyboard/LED strobe [2] or GPO[10] or RINGER |
| OPO[3]/GPO[11] | 43 | O | – | 2XL | Keyboard/LED strobe [3] or GPO[11] |
| OPO[4]/GPO[12]/ SSTXD1 | 42 | O | – | 2XL | Keyboard/LED strobe [4] or GPO[12] or SSTXD1 (for SSIF1) |
| OPO[5]/GPO[13] | 40 | O | – | 2XL | Keyboard/LED strobe [5] or GPO[13] |
| OPO[6]/GPO[14] | 39 | O | – | 2XL | Keyboard/LED strobe [6] or GPO[14] |
| OPO[7]/GPO[15] | 38 | O | – | 2XL | Keyboard/LED strobe [7] or GPO[15] |
| OPI[0]/GPIO[21]/ SSRXD1 | 52 | I/O | HU | 2XC | (Pullup, Hysteresis In) Keyboard return [0] or GPIO[21] or SSRXD1 (for SSIF1) |
| OPI[1]/GPIO[22]/ SSSTAT1 | 51 | I/O | HU | 2XC | (Pullup, Hysteresis In) Keyboard return [1] or GPIO[22] or SSSTAT1 (for SSIF1) |

**FC100M (IC9) Terminal descriptions**

| Pin Name | Pin No. | I/O | Input Type | Output Type | Pin Description |
|---|---|---|---|---|---|
| Operator Panel Interface | | | | | |
| OPI[2]/GPIO[23]/ SSCLK1 | 50 | I/O | HU | 2XC | (Pullup, Hysteresis In) Keyboard return [2] or GPIO[23] or SSCLK1 (for SSIF1) |
| OPI[3]/GPIO[24] | 49 | I/O | HU | 2XC | (Pullup, Hysteresis In) Keyboard return [3] or GPIO[24] |
| LEDCTL | 55 | O | – | 4XC | Indicates outputs OPO[7:0] are for LEDs. |
| LCDCS | 54 | O | – | 1XC | LCD chip select. |
| General Purpose I/O | | | | | |
| GPIO[0] | 94 | I/O | H | 2XC | (Hysteresis In) GPIO[0]. |
| GPIO[1]/SASTXD | 93 | I/O | H | 2XC | (Hysteresis In) GPIO[1] or SASTXD (for SERIF). |
| GPIO[2]/SASRXD | 92 | I/O | H | 2XC | (Hysteresis In) GPIO[2] or SASRXD (for SERIF). |
| GPIO[3]/SASCLK | 91 | I/O | H | 2XC | (Hysteresis In) GPIO[3] or SASCLK (for SERIF). |
| GPIO[4]/CPCIN | 90 | I/O | H | 2XC | (Hysteresis In) GPIO[4] or Calling Party Control Input. |
| GPIO[5]/SSCLK2 | 89 | I/O | H | 2XC | (Hysteresis In) GPIO[5] or SSCLK2 (for SSIF2). |
| GPIO[6]/SSTXD2 | 87 | I/O | H | 2XC | (Hysteresis In) GPIO[6] or SSTXD2 (for SSIF2). |
| GPIO[7]/SSRXD2 | 86 | I/O | H | 2XC | (Hysteresis In) GPIO[7] or SSRXD2 (for SSIF2). |
| GPIO[8]/FWRn | 85 | I/O | H | 2XC | (Hysteresis In) GPIO[8] or flash write enable signal for NAND-type flash memory. |
| GPIO[9]/FRDn | 84 | I/O | H | 2XC | (Hysteresis In) GPIO[9] or flash read enable signal for NAND-type flash memory. |
| GPIO[10]/SSSTAT2 | 83 | I/O | H | 2XC | (Hysteresis In) GPIO[10] or SSSTAT2 (for SSIF2). |
| GPIO[11]/BE/ SERINP | 82 | I/O | H | 1XC | (Hysteresis In) GPIO[11] or bus enable or serial port data input for autobaud detection. |
| GPIO[12]/CS[2]n | 80 | I/O | H | 2XC | (Hysteresis In) GPIO[12] or I/O chip select [2]. |
| GPIO[13]/CS[3]n | 79 | I/O | H | 2XC | (Hysteresis In) GPIO[13] or I/O chip select [3]. |
| GPIO[14]/CS[4]n | 78 | I/O | H | 2XC | (Hysteresis In) GPIO[14] or I/O chip select [4]. |
| GPIO[15]/CS[5]n | 77 | I/O | H | 2XC | (Hysteresis In) GPIO[15] or I/O chip select [5]. |
| GPIO[16]/IRQ[8] | 76 | I/O | H | 1XC | (Hysteresis In) GPIO[16] or external interrupt 8. |
| GPIO[17]/IRQ[5]n | 75 | I/O | H | 1XC | (Hysteresis In) GPIO[17] or external interrupt 5. |
| GPIO[18]/IRQ[9]n | 74 | I/O | H | 1XC | (Hysteresis In) GPIO[18] or external interrupt 9. |
| GPIO[19]/RDY/ SEROUT | 73 | I/O | H | 1XC | (Hysteresis In) GPIO[19] or ready signal or Serial port data output for autobaud detection. |
| GPIO[20]/ALTTONE | 107 | I/O | H | 1XC | (Hysteresis In) GPIO[20] or ALTTONE. |
| Miscellaneous | | | | | |
| SM[3:0]/GPO[7:4] | [103:106] | O | – | 1XC | Programmable: scan motor control pins or GPO pins. |
| PM[3:0]/GPO[3:0] | [115:118] | O | – | 1XC | Programmable: print motor control pins or GPO pins. |
| TONE | 119 | O | – | 1XC | Tone output signal. |
| Power, Reference Voltages, Ground | | | | | |
| -Vref/CLREF | 66 | I | -VR | – | Negative Reference Voltage for Video A/D or Reference Voltage for the Clamp Circuit. |
| ADXG | 68 | I | VXG | – | A/D Internal GND. (NOTE: This pin requires an external 0.22µF decoupling capacitor to ADGA.) |
| ADGA | 69 | | VADG | | A/D Analog Ground |
| ADVA | 70 | | VADV | | A/D Analog Power |
| ADGD | 72 | | VADG | | A/D Digital Ground |
| +Vref | 71 | I | +VR | | Positive Reference Voltage for Video A/D. |
| VIN | 67 | I | VA | – | Analog Video A/D input. |
| THADI | 65 | I | TA | – | Analog Thermal A/D input. |
| Power and Ground | | | | | |
| VSS(12) | 7,21,28,45, 53,56,64,88, 95,108,132, 134 | | | | Digital Ground |
| VDD(8) | 14,32,41,48, 81,102,123, 140 | | | | Digital Power |
| VBAT | 63 | | | | Battery Power |
| VDRAM | 114 | | | | DRAM Battery Power |

## (2) Panel control block

The following controls are performed by the FC100M.

- Operation panel key scanning
- Operation panel LCD display

## (3) Mechanism/recording control block

- Recording control block diagram (1)

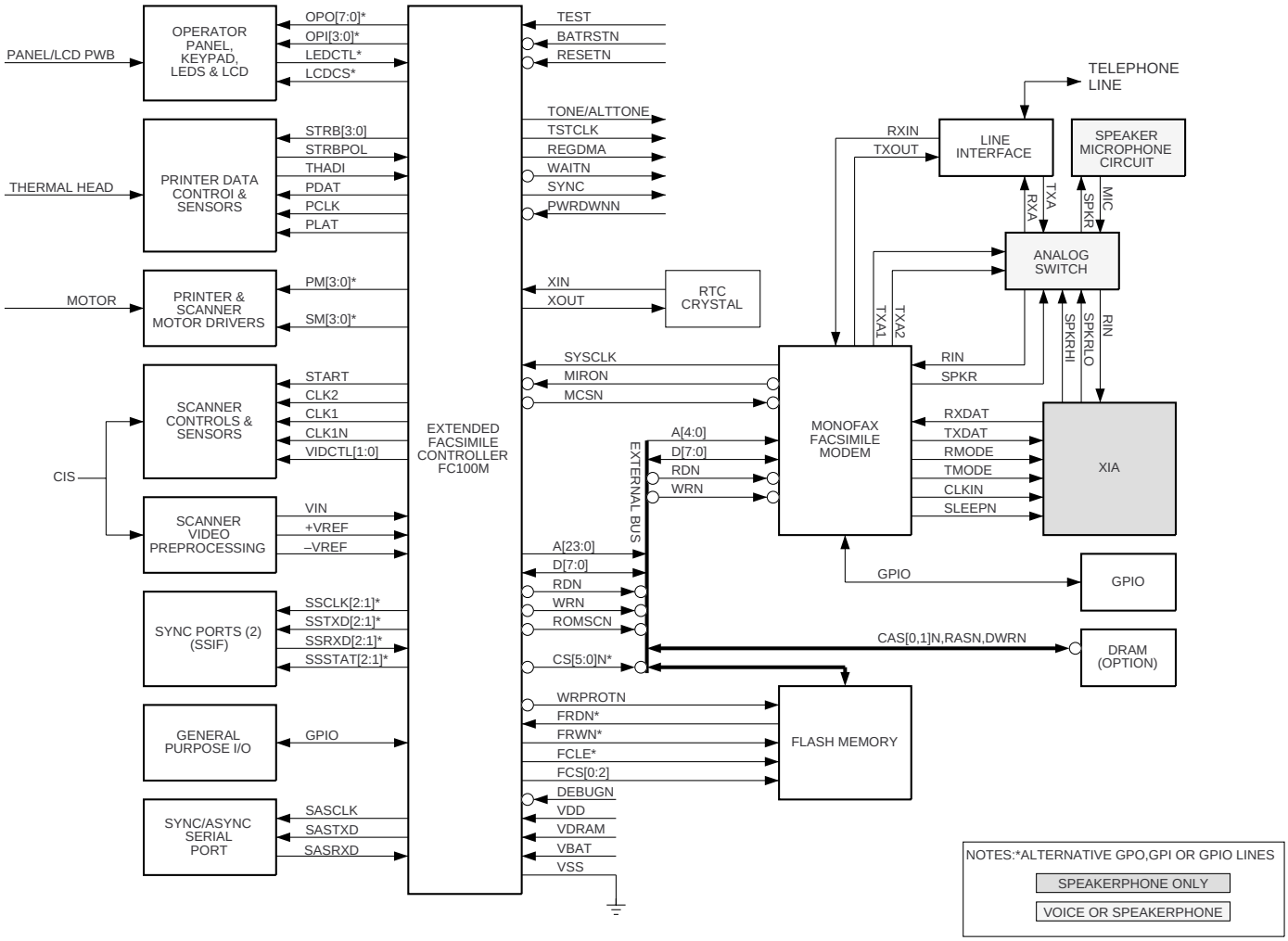



Fig. 4

## (4) Modem (R96DFXL-CID) block

### INTRODUCTION

The ROCKWELL (CONEXANT) R96DFXL-CID MONOFAX modem is a synchronous 9600 bits per second (bps) half-duplex modem with error detection and DTMF reception. It has low power consumption and requires only a single +5V DC power supply. The modem is housed in a single VLSI device package.
The modem can operate over the public switched telephone network (PSTN) through line terminations provided by a data access arrangement (DAA).
The R96DFXL-CID is designed for use in Group 3 facsimile machines.
The modem satisfies the requirements specified in CCITT recommendations V.29, V.27 ter, V.21 Channel 2 and T.4, and meets the binary signaling requirements of T.30.
The modem can operate at 9600, 7200, 4800, 2400, or 300 bps, and also includes the V.27 ter short training sequence option.
The modem can also perform HDLC framing according to T.30 at 9600, 7200, 4800, 2400, or 300 bps.
The modem features a programmable DTMF receiver and three programmable tone detectors which operate concurrently with the V.21 channel 2 receiver.
The voice mode allows the host computer to efficiently transmit and receive audio signals and messages.
The modem is available in either a 100-pin plastic quad flat pack (PQFP) or a 64-pin quad in-line package (QUIP).
General purpose input/output (GPIO) pins are available for host as signment in the 100-pin PQFP.
The modem's small size, single voltage supply, and low power consumption allow the design of compact system enclosures for use in both office and home environments.
MONOFAX is a registered trademark of ROCKWELL (CONEXANT) International.

### FEATURES

- Group 3 facsimile transmission/reception
  - – ITU-TS V.29, V.27 ter, T.30, V.21 Channel 2, T.4
  - – HDLC Framing at all speeds
- V.27 ter short train
- Concurrent DTMF, FSK, and tone reception
- Voice mode transmission/reception
- Half-duplex (2-wire)
- Programmable maximum transmit level:
  - 0 dBm to –15 dBm
- Programmable transmit analog attenuation:
  - 0 dB to 14 dB in 2 dB steps
- Receive dynamic range: 0 dBm to –43 dBm
- Programmable dual tone generation
- Programmable tone detection
- Programmable turn-on and turn-off thresholds
- Programmable interface memory interrupt
- Diagnostic capability
  - – Allows telephone line quality monitoring
- Equalization
  - – Automatic adaptive equalizer
  - – Fixed digital compromise equalizer
- DTE interface: two alternate ports
  - – Selectable microprocessor bus (6500 or 8085)
  - – CCITT V.24 (EIA-232-D compatible) interface
- TTL and CMOS compatible
- Low power consumption: 275 mW (typical)
- Single Package
  - – 100-pin PQFP
  - – 64-pin QUIP
- Single +5VDC power supply
- Software compatible with R96MFX, R96EFX, R96SHF, and R96VFX modems

## R96DFXL-CID (IC6) Hardware Interface Signals

**Pin Signals – 100-Pin PQFP**

| Pin No. | Signal Name | I/O Type |
|---|---|---|
| 1 | GP03 | IA/OB |
| 2 | GP04 | IA/OB |
| 3 | GP05 | IA/OB |
| 4 | GP06 | IA/OB |
| 5 | GP07 | IA/OB |
| 6 | 0VD2 | GND |
| 7 | 0VD2 | GND |
| 8 | D7 | IA/OB |
| 9 | D6 | IA/OB |
| 10 | D5 | IA/OB |
| 11 | D4 | IA/OB |
| 12 | D3 | IA/OB |
| 13 | D2 | IA/OB |
| 14 | D1 | IA/OB |
| 15 | D0 | IA/OB |
| 16 | 0VD2 | GND |
| 17 | 0VA | GND |
| 18 | RAMPIN | R |
| 19 | NC | |
| 20 | NC | |
| 21 | 0VA | GND |
| 22 | +5VD2 | PWR |
| 23 | 0VD1 | GND |
| 24 | SWGAINI | R |
| 25 | ECLKIN1 | R |
| 26 | SYNCIN1 | R |
| 27 | NC | |
| 28 | NC | |
| 29 | NC | |
| 30 | 0VA | GND |
| 31 | NC | |
| 32 | NC | |
| 33 | NC | |
| 34 | DAIN | R |
| 35 | ADOUT | R |
| 36 | BYPASS | IC |
| 37 | RCVI | R |
| 38 | TXLOSS3 | IC |
| 39 | TXLOSS2 | IC |
| 40 | TXLOSS1 | IC |
| 41 | NC | |
| 42 | NC | |
| 43 | 0VA | GND |
| 44 | TXOUT | AA |
| 45 | RXIN | AB |
| 46 | +5VA | PWR |
| 47 | 0VA | GND |
| 48 | AGD | R |
| 49 | AOUT | R |
| 50 | 0VD1 | GND |
| 51 | NC | |
| 52 | $\overline{\text{IRQ}}$ | OC |
| 53 | $\overline{\text{WRITE}}$-R/$\overline{\text{W}}$ | IA |
| 54 | $\overline{\text{CS}}$ | IA |
| 55 | $\overline{\text{READ}}$-$\phi$2 | IA |
| 56 | RS4 | IA |
| 57 | RS3 | IA |
| 58 | RS2 | IA |
| 59 | RS1 | IA |
| 60 | RS0 | IA |
| 61 | GP13 | IA/OB |
| 62 | NC | |
| 63 | GP11 | IA/OB |
| 64 | $\overline{\text{RTS}}$ | IA |
| 65 | $\overline{\text{EN85}}$ | R |
| 66 | 0VD2 | GND |
| 67 | $\overline{\text{PORI}}$ | ID |
| 68 | XTLI | R |
| 69 | XTLO | R |
| 70 | XCLK | OD |
| 71 | YCLK | OD |
| 72 | +5VD1 | PWR |
| 73 | DCLK1 | R |
| 74 | SYNCIN2 | R |
| 75 | GP16 | IA/OB |
| 76 | GP17 | IA/OB |
| 77 | 0VD2 | GND |
| 78 | $\overline{\text{CTS}}$ | OA |
| 79 | TXD | IA |
| 80 | 0VD2 | GND |
| 81 | 0VD2 | GND |
| 82 | DCLK | OA |
| 83 | EYESYNC | OA |
| 84 | EYECLKX | OA |
| 85 | EYECLK | OA |
| 86 | EYEX | OA |
| 87 | ADIN | R |
| 88 | DAOUT | R |
| 89 | 0VD2 | GND |
| 90 | EYEY | OA |
| 91 | GP21 | IA/OB |
| 92 | 0VD2 | GND |
| 93 | GP20 | IA/OB |
| 94 | GP19 | IA/OB |
| 95 | RXD | OA |
| 96 | $\overline{\text{RLSD}}$ | OA |
| 97 | 0VD2 | GND |
| 98 | RCVO | R |
| 99 | SWGAINO | R |
| 100 | GP02 | IA/OB |

**Notes:**
1. NC = No connection; leave pin disconnected (open).
2. I/O Type: = Digital signals: see Table 9;
   Analog signals: see Table 10.
3. R = Required modem inter-connection; no connection to host equipment.

# [3] Circuit description of TEL/LIU PWB

## (1) TEL/LIU block operational description

### 1) Block diagram

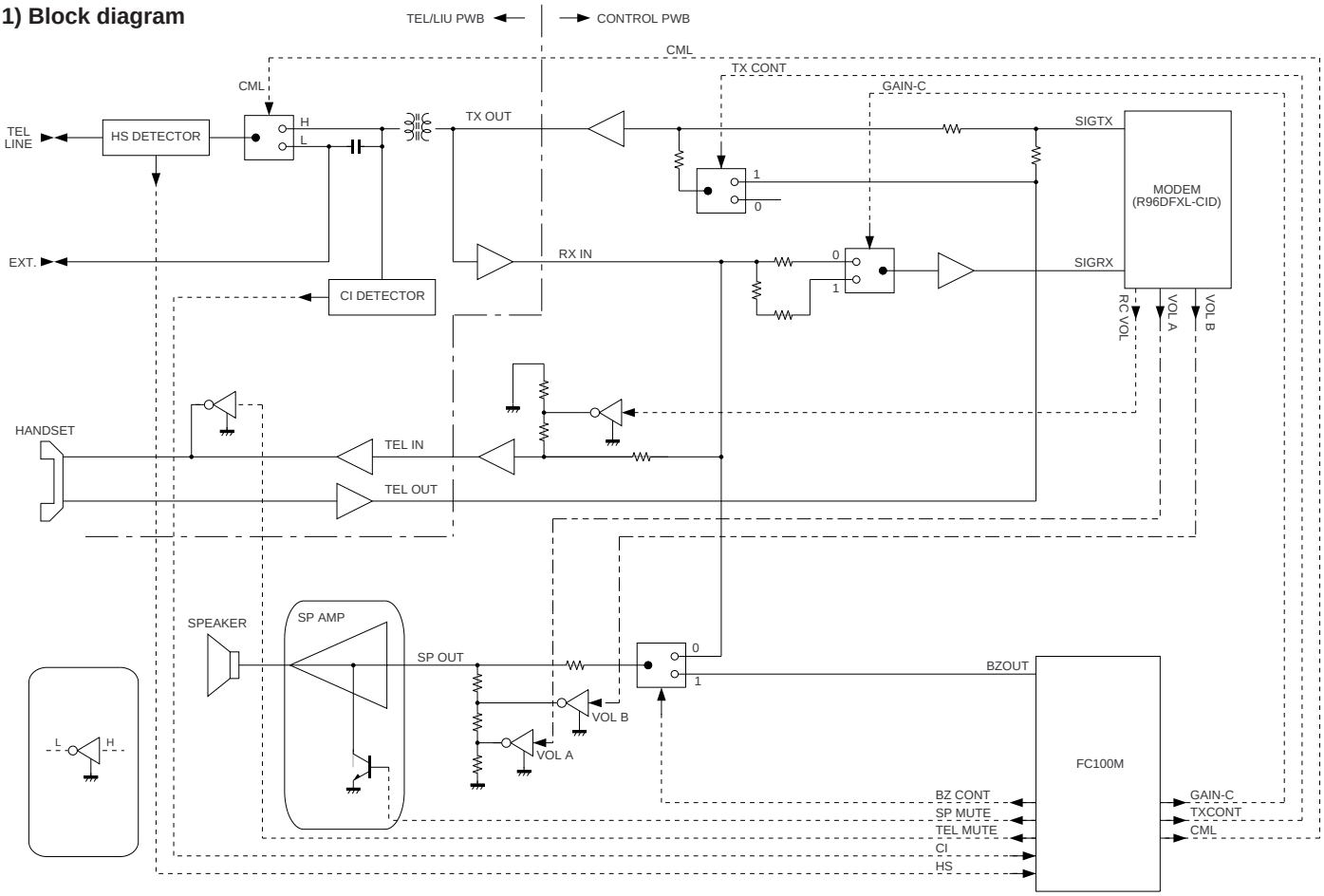



Fig. 5

### 2) Circuit description

The TEL/LIU PWB is composed of the following 7 blocks.

1. Speech circuit section
2. Dial transmission section
3. Speaker amplifier section
4. Ringer circuit section
5. Externally connected TEL OFF HOOK detection circuit
6. CI detection circuit
7. Signal/DTMF transmission level & receiving level

### 3) Block description

**1. Speech circuit section**

- The receiver volume is an electronic volume type, this model is switched in 2 steps.

**2. Dial transmission section**

- D.P. transmission: The CML relay is turned on and off for control in the DP calling system. (Refer to the attached sheet.)
- DTM transmission: It is formed in the modem, and is output.

**3. Speaker amplifier section**

- The volume of the ringer sound/speaker sound is controlled with 2-bit signal of VOLA and VOLB, and the sound switch is controlled with BZ CONT.

**4. Ringer circuit section**

- The ringer sound is formed in the tone of 1-chip modem when CI signal is detected. The amplifier circuit drives the speaker of the main body.

**5. Externally connected TEL OFF HOOK detection circuit section**

- The circuit current detection is turned on together with OFF HOOK of main body or OFF HOOK of externally connected TEL. ON of CML OFF ($\overline{HS}$=L) is judged as OFF HOOK of externally connected TEL.

**6. CI detection circuit**

- CI is detected by the photocoupler which is integrated in series in the primary side TEL circuit well proven in the existing unit.

**7. Signal/DTMF transmission level & receiving level**

- Signal transmission level setting: ATT -8 dB Circuit output: -11 dBm.
- DTMF transmission level setting: HF -4.5 dBm LF -6.5 dBm
  Thus, set the level.

**4) Signal selection**

The following signals are used to control the transmission line of TEL/FAX signal. For details, refer to the signal selector matrix table.

[Control signals from output port]

<table>
<tr><th>Signal Name</th><th>Description</th></tr>
<tr><td>CML<br>(The circuit is located in the TEL/LIU PWB.)</td><td><u>Line connecting relay and DP generating relay</u><br>H: Line make<br>L: Line break</td></tr>
<tr><td>SP MUTE</td><td><u>Speaker tone mute control signal</u><br>H: Muting (Power down mode)<br>L: Muting cancel (Normal operation)</td></tr>
<tr><td>TEL MUTE</td><td><u>Handset reception mute control signal</u><br>H: Muting<br>L: Muting cancel</td></tr>
<tr><td>RCVOL<br>(The circuit is located in the control PWB.)</td><td><u>Handset receiver volume control signal</u>
<table>
<tr><th>RCVCL</th><th>Volume</th><th>DTMF/DP</th></tr>
<tr><td>H</td><td>Middle</td><td>Fixed/—</td></tr>
<tr><td>L</td><td>high</td><td>—</td></tr>
</table>
Note: The DTMF sending listed above is DTMF signal sending in the handset OFF-HOOK mode.</td></tr>
<tr><td>VOL A<br>VOL B<br>(The circuit is located in the control PWB.)</td><td><u>Speaker volume control signal,</u><br>VOL A VOL B matrix
<table>
<tr><th></th><th>VOL A</th><th>VOL B</th><th>RING. Receiving</th><th>Buzzer</th><th>DTMF</th></tr>
<tr><td></td><td>H</td><td>H</td><td>—</td><td>—</td><td>—</td></tr>
<tr><td></td><td>L</td><td>H</td><td>Low</td><td>—</td><td>Low</td></tr>
<tr><td></td><td>H</td><td>L</td><td>Middle</td><td>Fixed</td><td>Middle</td></tr>
<tr><td></td><td>L</td><td>L</td><td>High</td><td>—</td><td>High</td></tr>
</table></td></tr>
<tr><td>TXCONT<br>(The circuit is located in the control PWB.)</td><td><u>Handset transfer mute control signal</u><br>H: Signal sending, when transmitting<br>L: During reception, transmission mute, (during standby)</td></tr>
<tr><td>GAIN-C<br>(The circuit is located in the control PWB.)</td><td><u>Reception gain switching signal</u><br>H: When connected to line, 1: 1 gain<br>L: When not connected to line, HIGH gain</td></tr>
<tr><td>BZCONT<br>(The circuit is located in the control PWB.)</td><td><u>Speaker output signal switching</u><br>H: Buzzer signal output (during stand by)<br>L: When monitoring line signal</td></tr>
</table>

[Signals for status recognition according to input signals]

| Signal Name | Function |
|---|---|
| $\overline{\text{RHS}}$ | H: The handset is in the on-hook state.<br>L: The handset is in the off-hook state. |
| CI | Incoming call (CI) detection signal |
| $\overline{\text{HS}}$ | H: The handset or external telephone is in the on-hook state.<br>L: The handset or external telephone is in the off-hook state. |
| P-E | H: Recording paper does not exist.<br>L: Recording paper is set (exists).<br>(Detection of recording paper in printing state) |
| P-IN | H: Recording paper does not exist in case of printing.<br>L: Recording paper exists in case of printing.<br>(Detection of recording paper in printing state) |

[Other signals]

| Signal Name | Function |
|---|---|
| TEL IN | Receiving signal from line or modem |
| TEL OUT | Transfer signal to line |
| SPOUT | Speaker output signal |
| TXOUT | Transmission (DTMF) analog signal output from modem |
| RXIN | Reception (DTMF, others) analog signal input into modem |

| NO | Signal Name (CNLIU) | NO | Signal Name (CNLIU) |
|---|---|---|---|
| 1 | TELOUT | 8 | RHS |
| 2 | TELIN | 9 | RXIN |
| 3 | TELMUTE | 10 | TXOUT |
| 4 | CI | 11 | CML |
| 5 | HS | 12 | +5V |
| 6 | P-E | 13 | DG |
| 7 | P-IN | 14 | +24V |

**(Example: TEL speaking)**

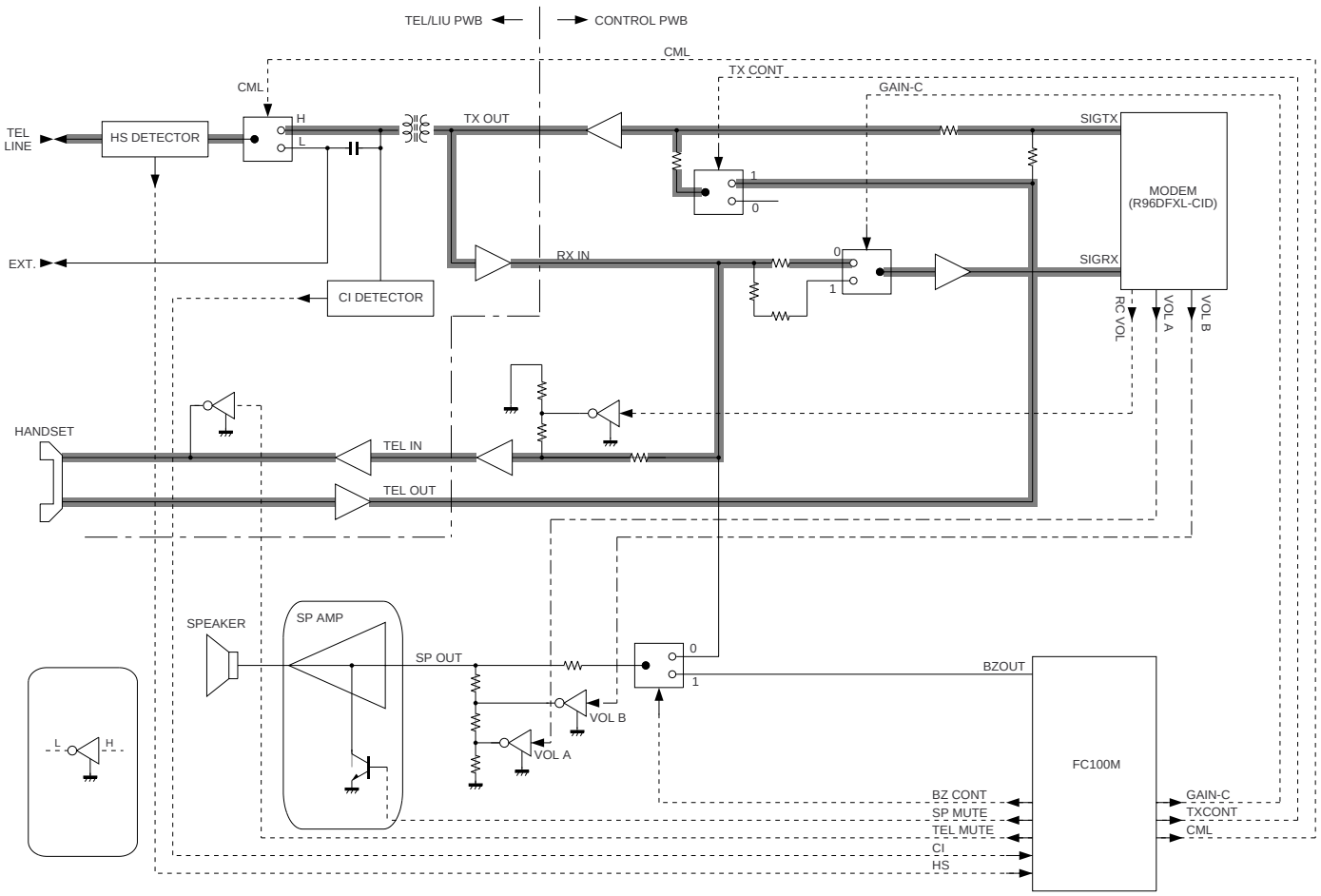



Fig. 6

# [4] Circuit description of power supply PWB

## 1. Block diagram

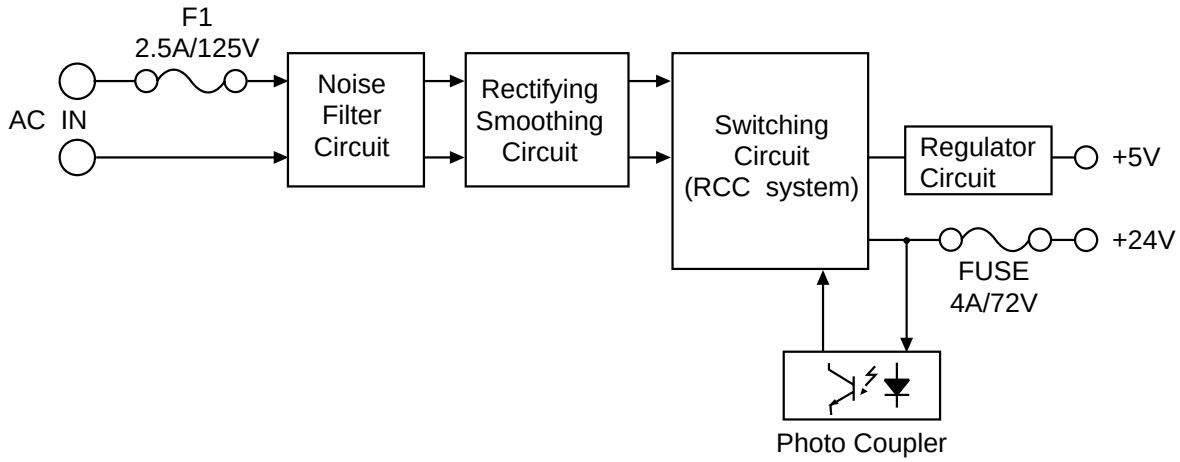



Fig. 7

### 2-1. Noise filter circuit

The input noise filter section is composed of L and C, which reduces normal mode noise from the AC line and common mode noise to the AC line.

### 2-2. Rectifying/smoothing circuit

The AC input voltage is rectified by diode D1, 2, 3, 4 and smoothed by capacitor C2 to supply DC voltage to the switching circuit section.

Power thermistor TH1 suppresses inrush current at power switch-on.

### 2-3. Switching circuit

This circuit employs the self excited ringing choke convertor (RCC) system. In this system, the DC voltage supplied from the rectifying/smoothing section is converted into high frequency pulses by ON/OFF repetition of MOS FET Q1.

Energy is charged in the primary winding of T1 during ON period of Q1, and discharged to the secondary winding during OFF period.

The output voltage is controlled by adjusting ON period of Q1 which changes charge time of C9 through operation of photo-coupler PC1 from +24V output.

The overcurrent protection is performed by bringing Q1 to OFF state through detection of voltage increase in the auxiliary winding of T1 by ZD2, R5 and R6.

The overvoltage protection is performed by operating the overcurrent protection circuit through destruction of zener diode ZD4 and short-circuiting of load.

### 2-4. +5V circuit

Each DC voltage supplied by rectifying the output of transformer T1 with diode D8 is stabilized by 3-terminal regulator IC1.

# [5] Circuit description of CIS unit

## 1. CIS

Cis is an image sensor which puts the original paper in close contact with the full-size sensor for scanning, being a monochromatic type with the pixel number of 1,728 dots and the main scanning density of 8 dots/mm.

It is composed of sensor, rod lens, LED light source, light-conductive plate, control circuit and so on, and the reading line and focus are previously adjusted as the unit.
Due to the full-size sensor, the focus distance is so short that the set is changed from the light weight type to the compact type.

## 2. Waveforms

The following clock is supplied from FC100M of the control board, and VO is output.

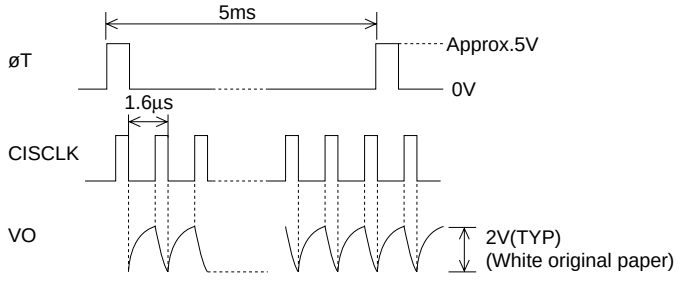
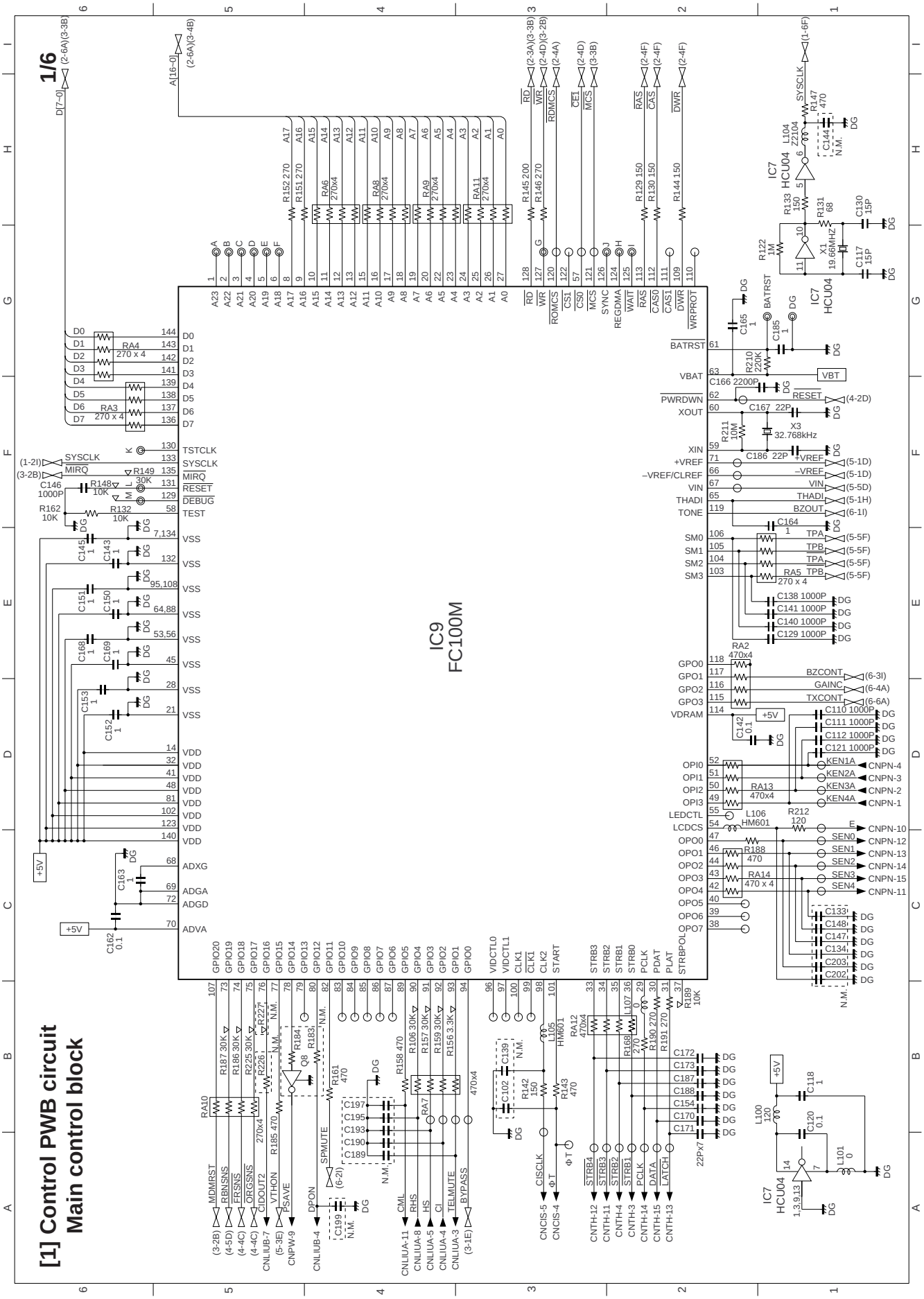
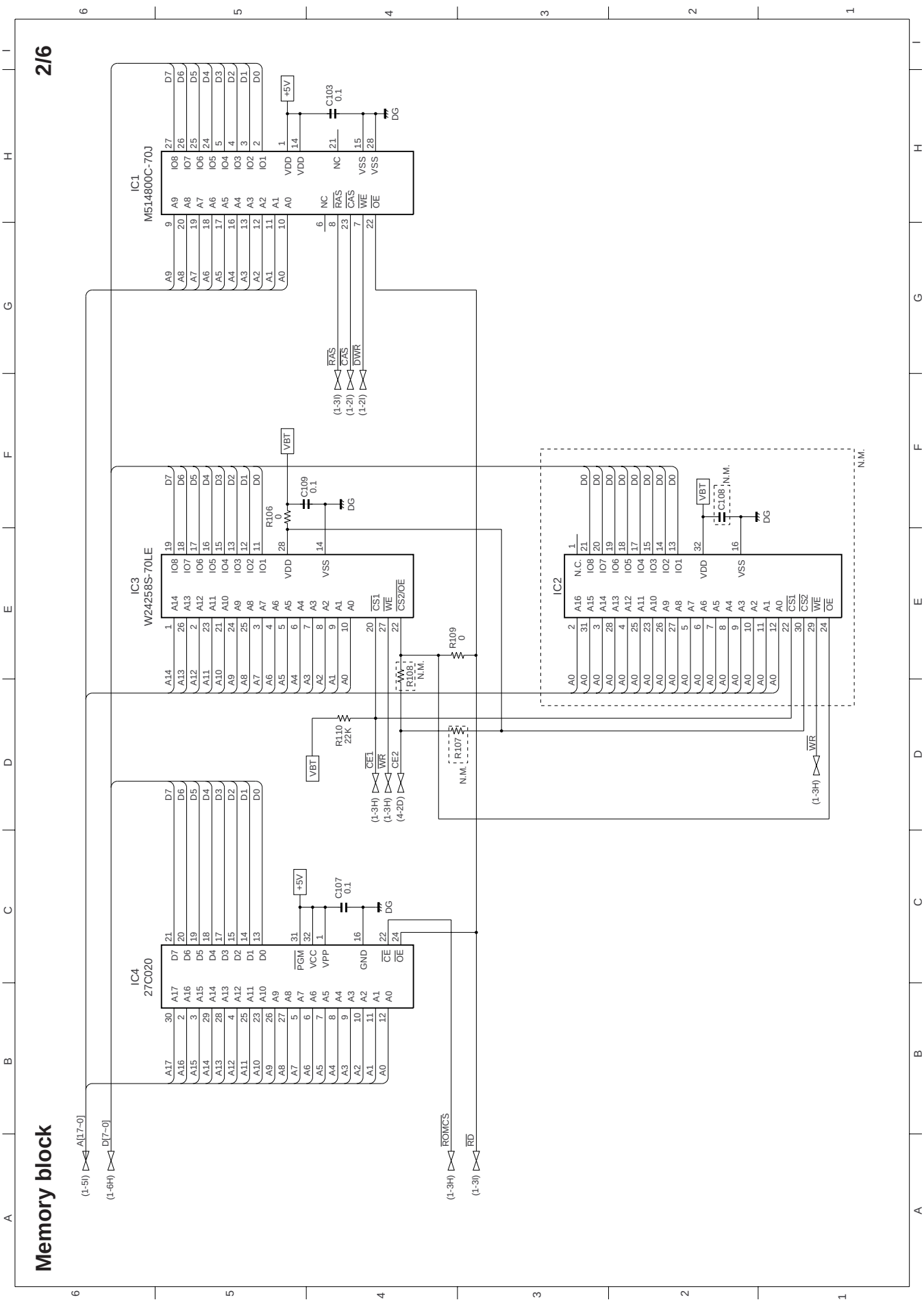
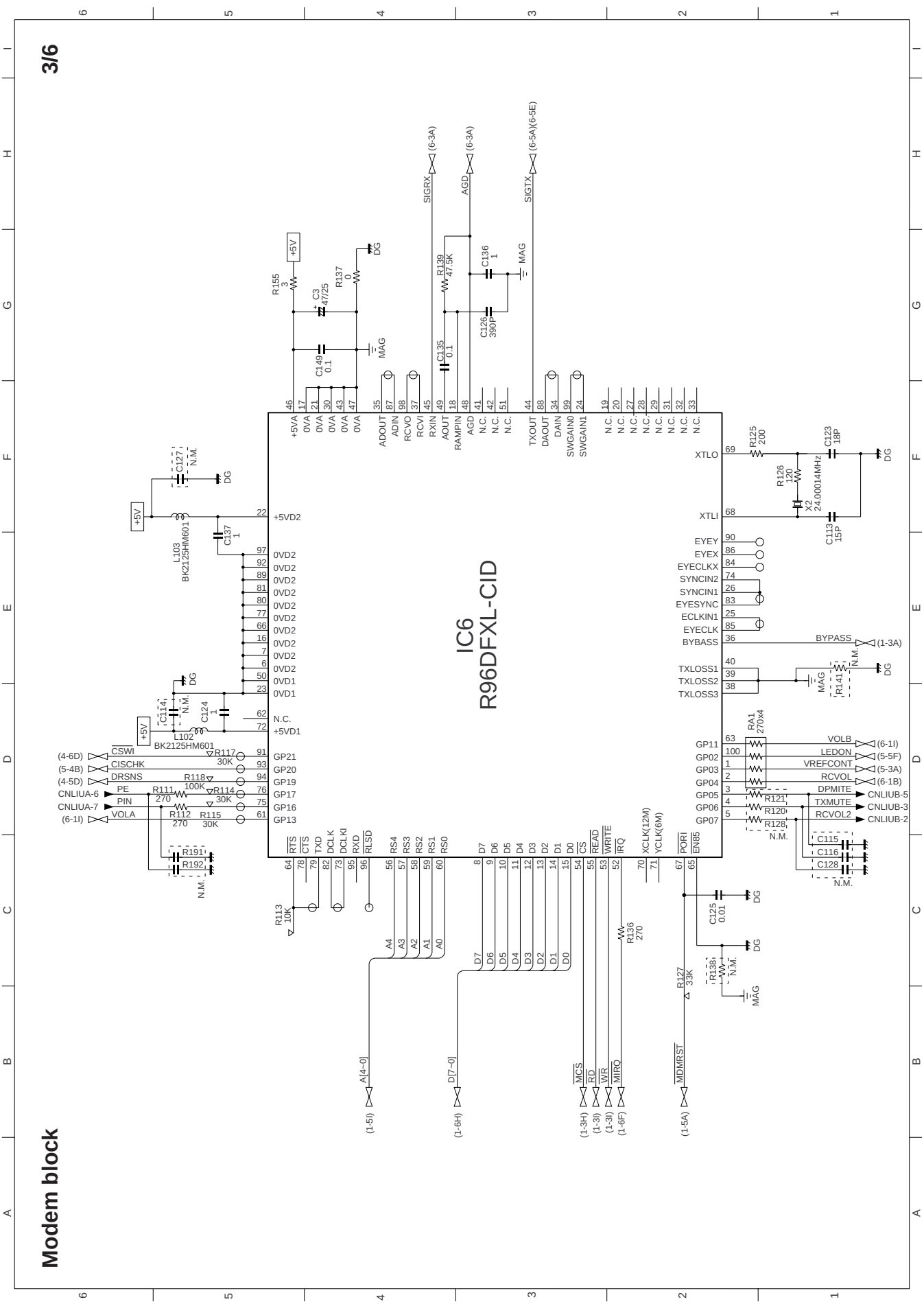


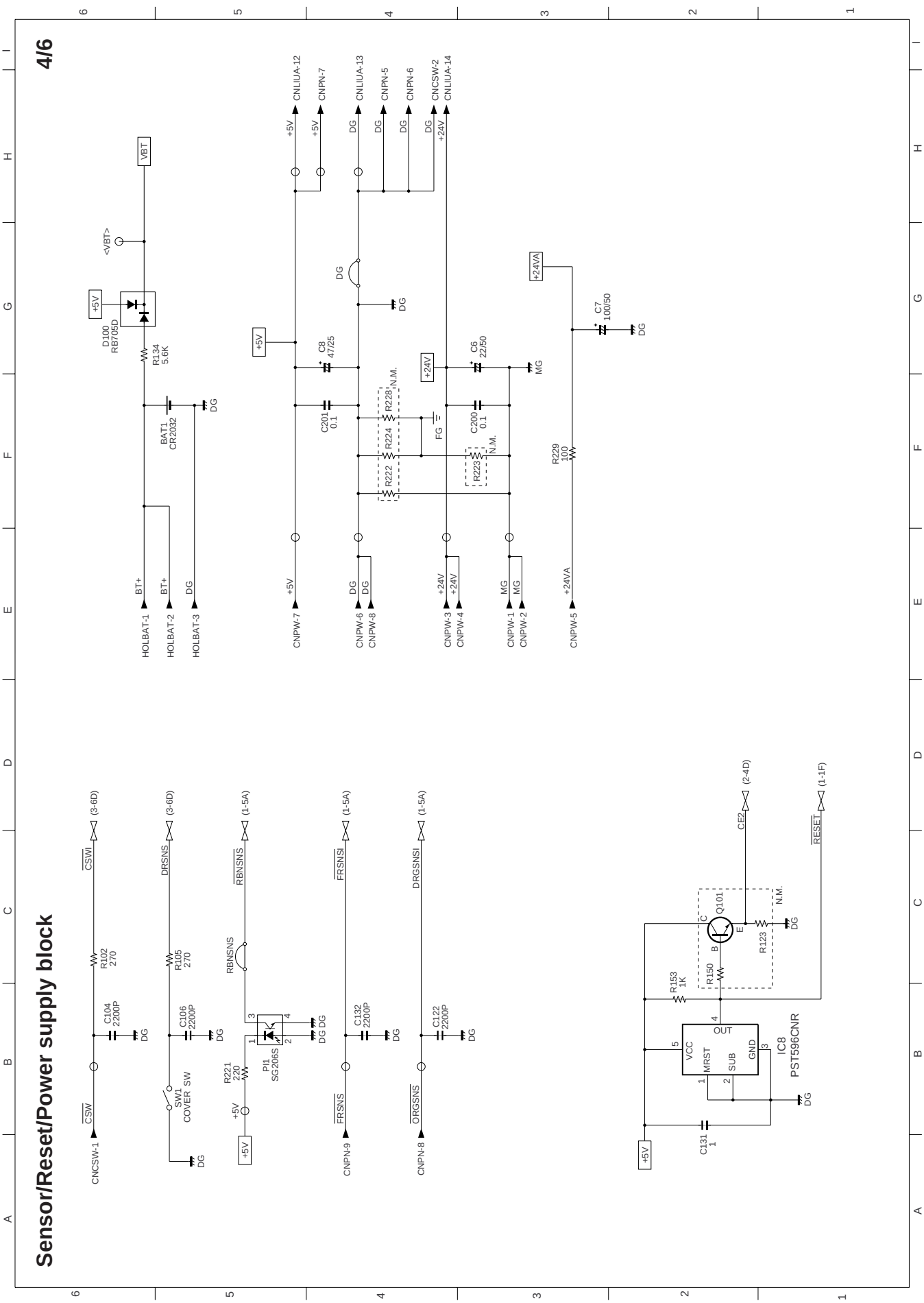

Fig. 8

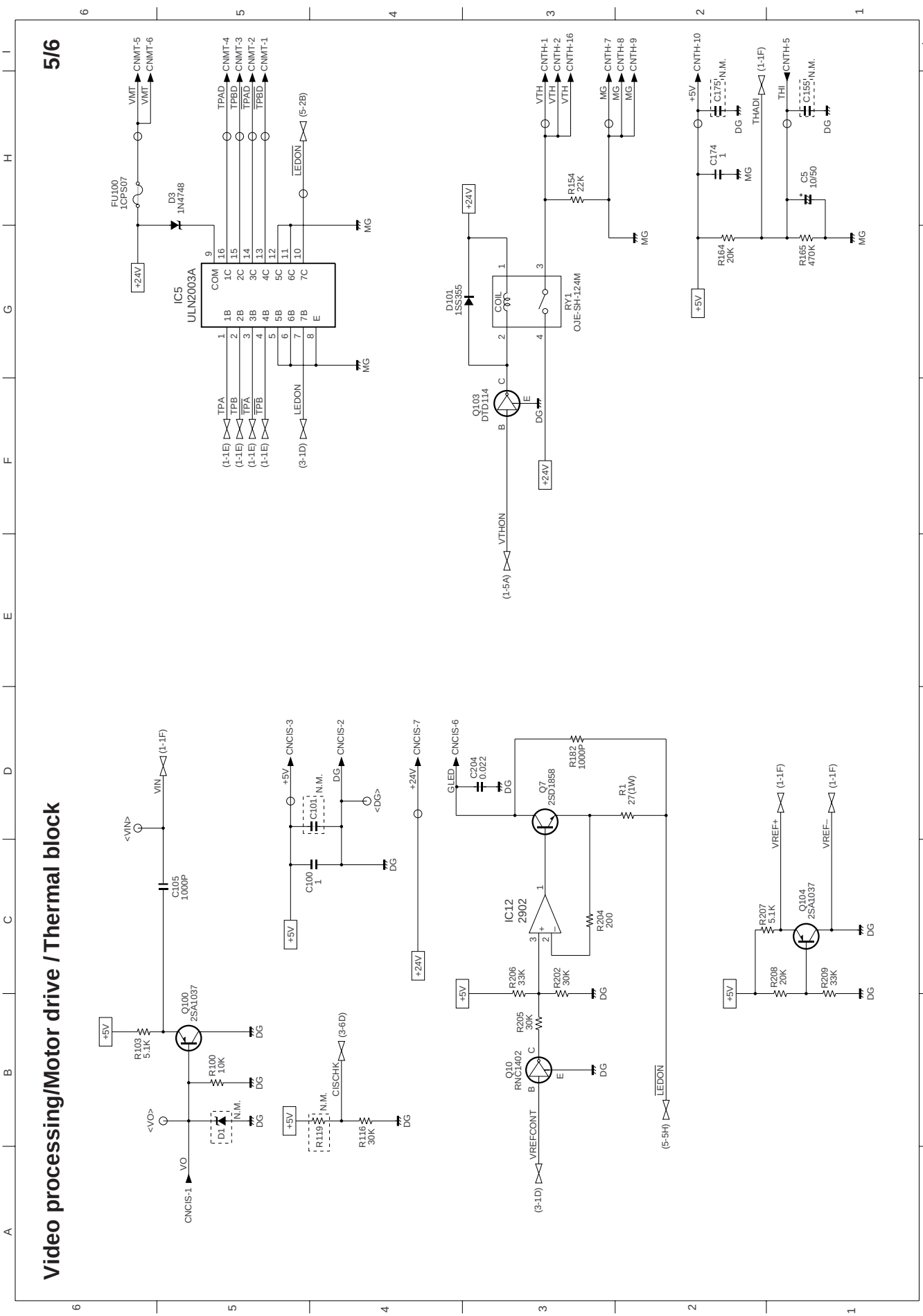
# CHAPTER 6. CIRCUIT SCHEMATICS AND PARTS LAYOUT

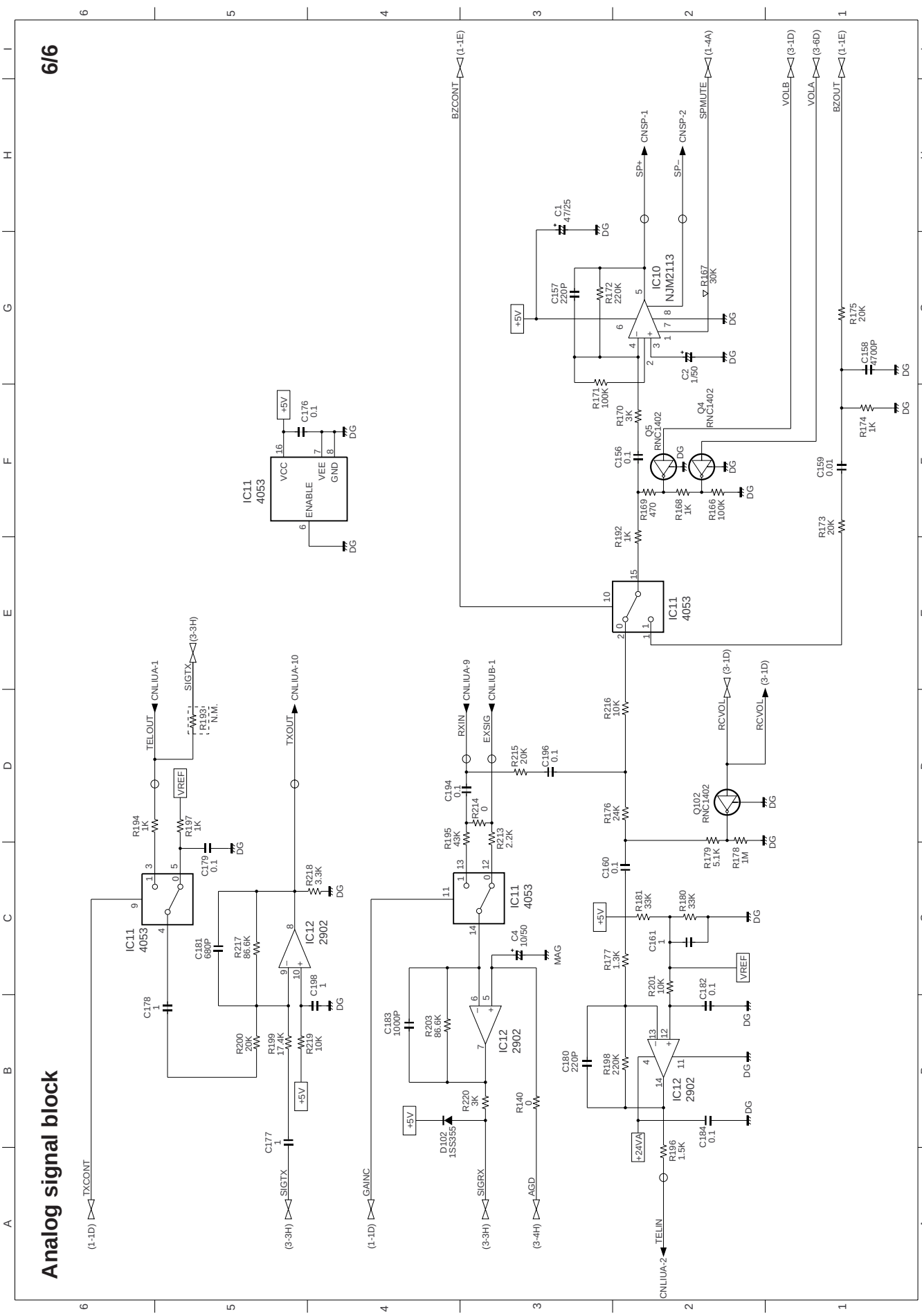



2/6
Memory block
IC1
M514800C-70J
IC2
IC3
W24258S-70LE
IC4
27C020
+5V
VBT
DG
C103 0.1
C107 0.1
C108 N.M.
C109 0.1
R106 0
R107 N.M.
R108 N.M.
R109 0
R110 22K
N.M.
A[17–0]
D[7–0]
RAS
CAS
DWR
WR
ROMCS
RD

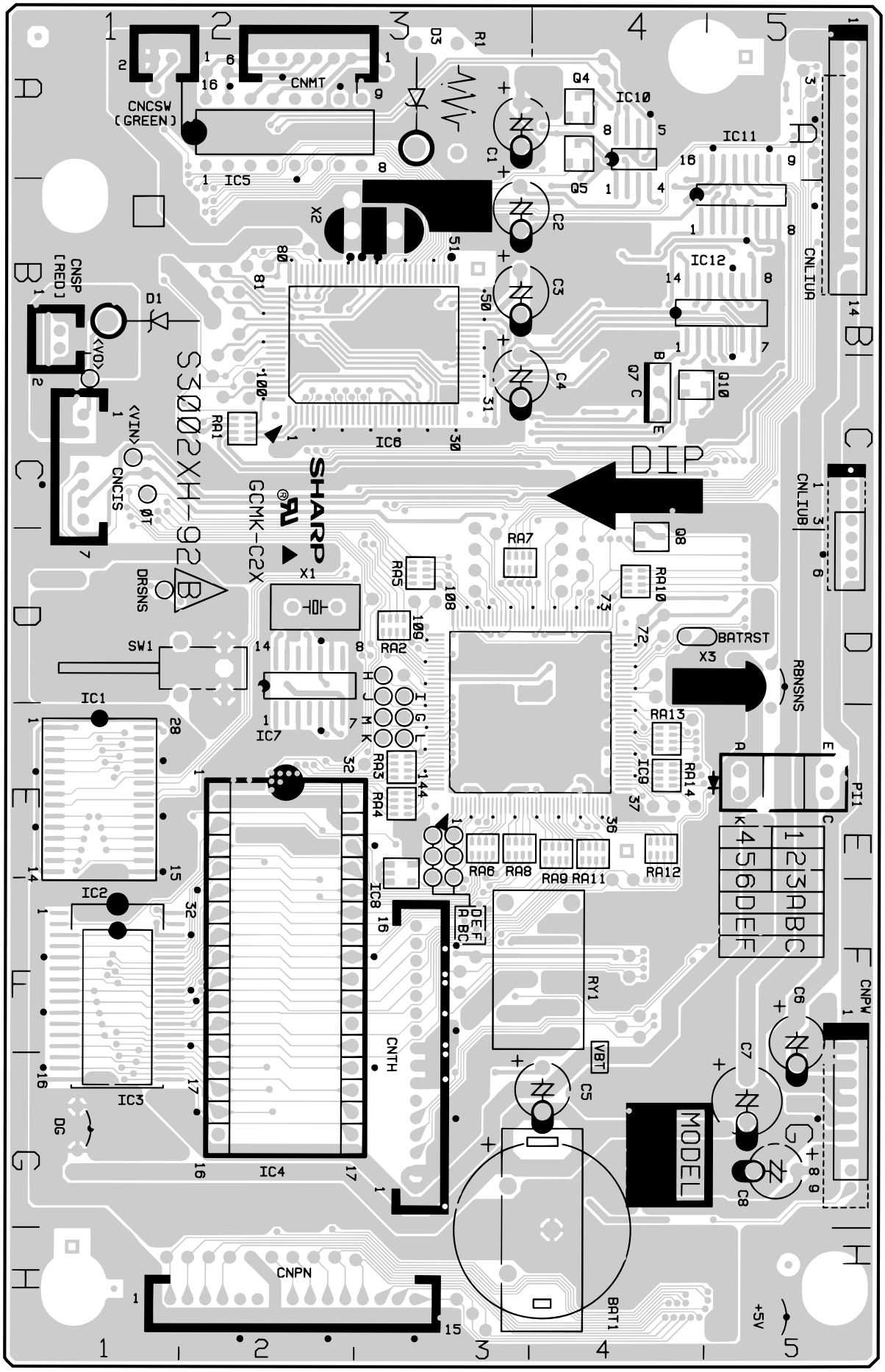

3/6
Modem block
IC6
R96DFXL-CID


4/6
Sensor/Reset/Power supply block
<VBT>
VBT
+5V
D100
RB705D
R134
5.6K
BAT1
CR2032
DG
BT+
HOLBAT-1
HOLBAT-2
HOLBAT-3
CNLIUA-12
CNPN-7
CNLIUA-13
CNPN-5
CNPN-6
CNCSW-2
CNLIUA-14
+24V
C8
47/25
C201
0.1
R228
N.M.
R224
R222
FG
C200
0.1
R223
N.M.
C6
22/50
MG
+24VA
C7
100/50
R229
100
CNPW-7
CNPW-6
CNPW-8
CNPW-3
CNPW-4
CNPW-1
CNPW-2
CNPW-5
CSW
CSWI
DRSNS
RBNSNS
FRSNSI
DRGSNSI
(3-6D)
(1-5A)
CNCSW-1
SW1
COVER SW
R102
270
R105
270
C104
2200P
C106
2200P
R221
220
PI1
SG206S
C132
2200P
C122
2200P
CNPN-9
CNPN-8
FRSNS
ORGSNS
DG DG
R153
1K
R150
R123
Q101
N.M.
CE2
(2-4D)
RESET
(1-1F)
IC8
PST596CNR
VCC
MRST
SUB
GND
OUT
C131
1

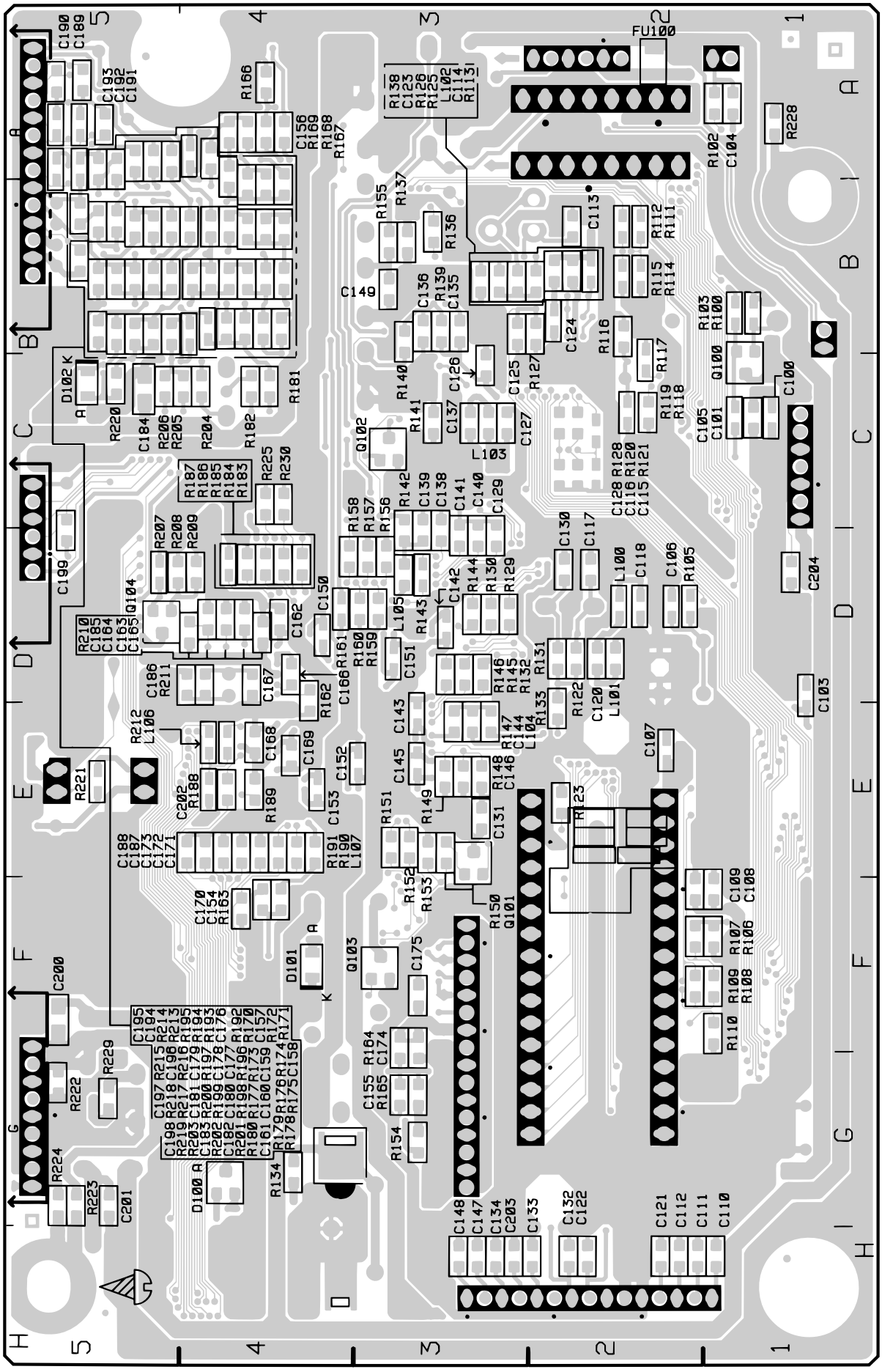

5/6
Video processing/Motor drive / Thermal block
FU100 1CPS07
D3 1N4748
IC5 ULN2003A
COM
1B 2B 3B 4B 5B 6B 7B E
1C 2C 3C 4C 5C 6C 7C
VMT CNMT-5 CNMT-6
TPAD CNMT-4 TPBD CNMT-3 TPAD CNMT-2 TPBD CNMT-1
LEDON (5-2B)
+24V
MG
TPA TPB TPA TPB
(1-1E) (1-1E) (1-1E) (1-1E)
LEDON (3-1D)
D101 1SS355
COIL
RY1 OJE-SH-124M
Q103 DTD114
VTHON (1-5A)
R154 22K
VTH CNTH-1 VTH CNTH-2 VTH CNTH-16
MG CNTH-7 MG CNTH-8 MG CNTH-9
+5V CNTH-10
C175 N.M.
C174 1
R164 20K
THADI (1-1F)
THI CNTH-5
C155 N.M.
C5 10/50
R165 470K
DG
<VIN>
VIN (1-1F)
C105 1000P
Q100 2SA1037
R103 5.1K
R100 10K
<VO>
D1 N.M.
VO
CNCIS-1
C100 1
C101 N.M.
CNCIS-3
CNCIS-2
<DG>
CISCHK (3-6D)
R119 N.M.
R116 30K
CNCIS-7
GLED
C204 0.022
Q7 2SD1858
R182 1000P
R1 27(1W)
IC12 2902
R204 200
R206 33K
R202 30K
R205 30K
Q10 RNC1402
VREFCONT (3-1D)
LEDON (5-5H)
VREF+ (1-1F)
VREF− (1-1F)
Q104 2SA1037
R207 5.1K
R208 20K
R209 33K


6/6
Analog signal block
IC11 4053
IC12 2902
IC10 NJM2113
Q4 RNC1402
Q5 RNC1402
Q102 RNC1402
D102 1SS355
BZCONT
SPMUTE
CNSP-1
CNSP-2
VOLB
VOLA
BZOUT
RCVOL
TXCONT
SIGTX
TELOUT
CNLIUA-1
CNLIUA-10
CNLIUA-9
CNLIUB-1
RXIN
EXSIG
GAINC
SIGRX
AGD
MAG
TELIN
CNLIUA-2
VREF
+5V
+24VA
DG

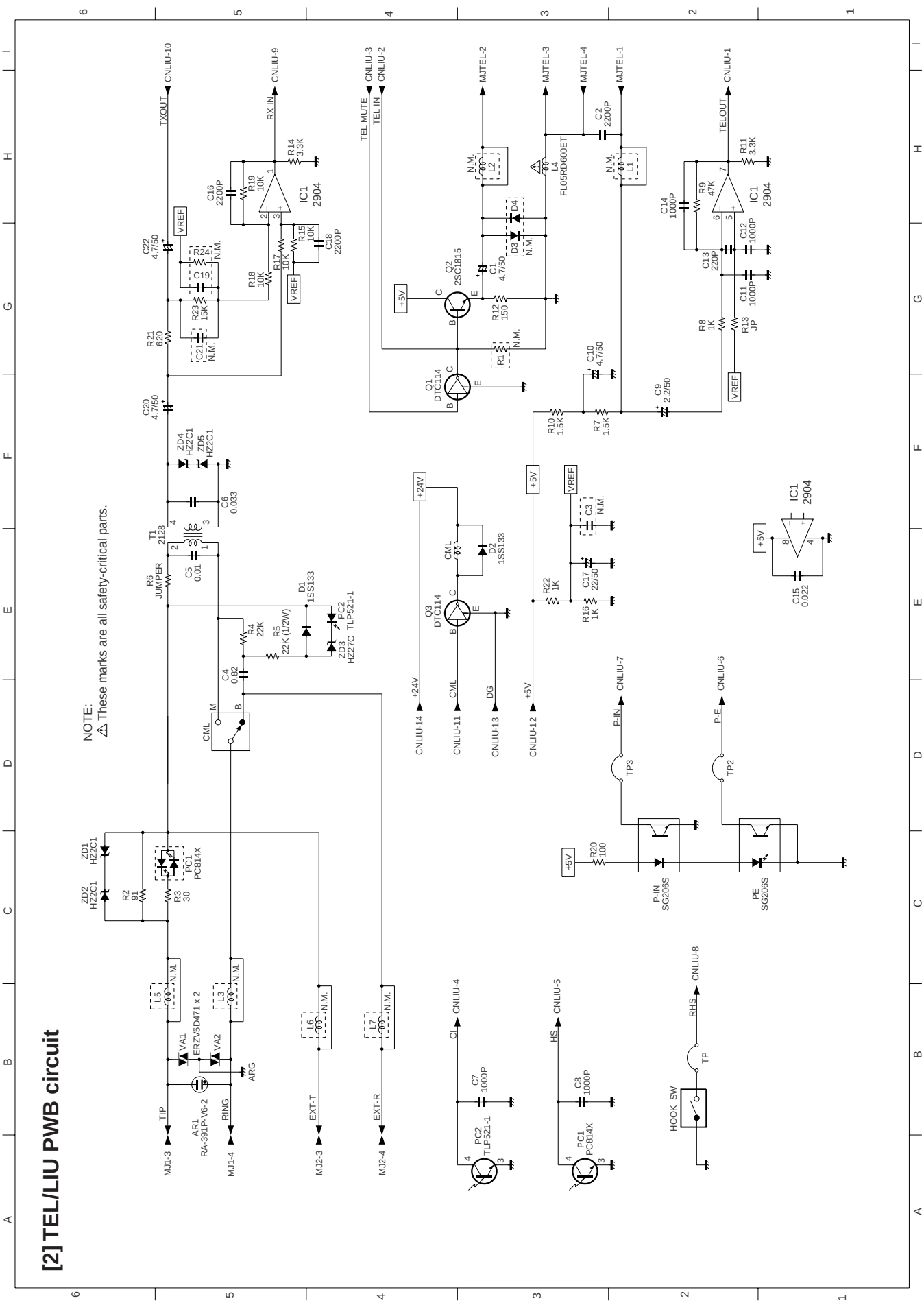
## Control PWB parts layout (Top side)



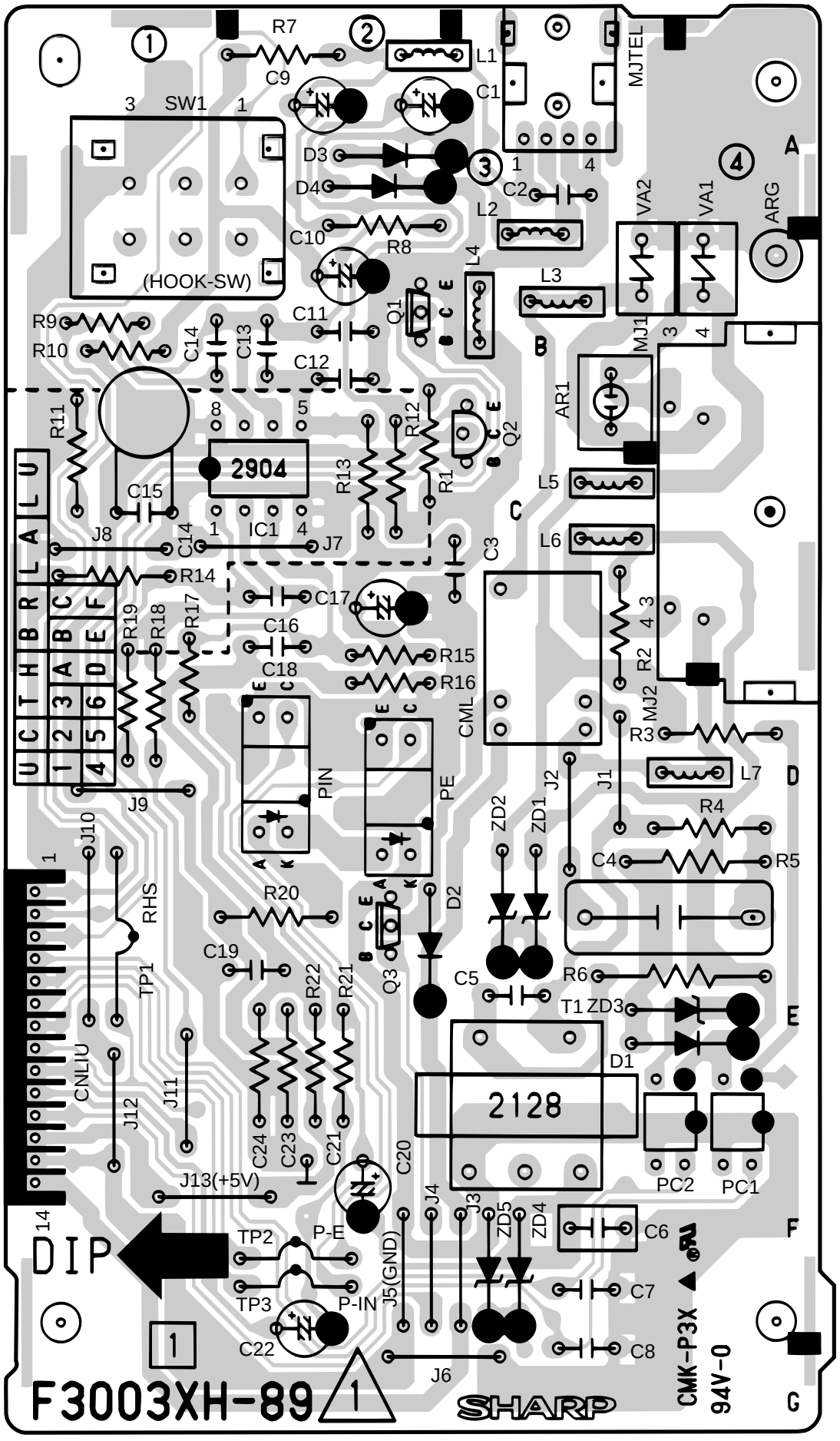
## Control PWB parts layout (Bottom side)



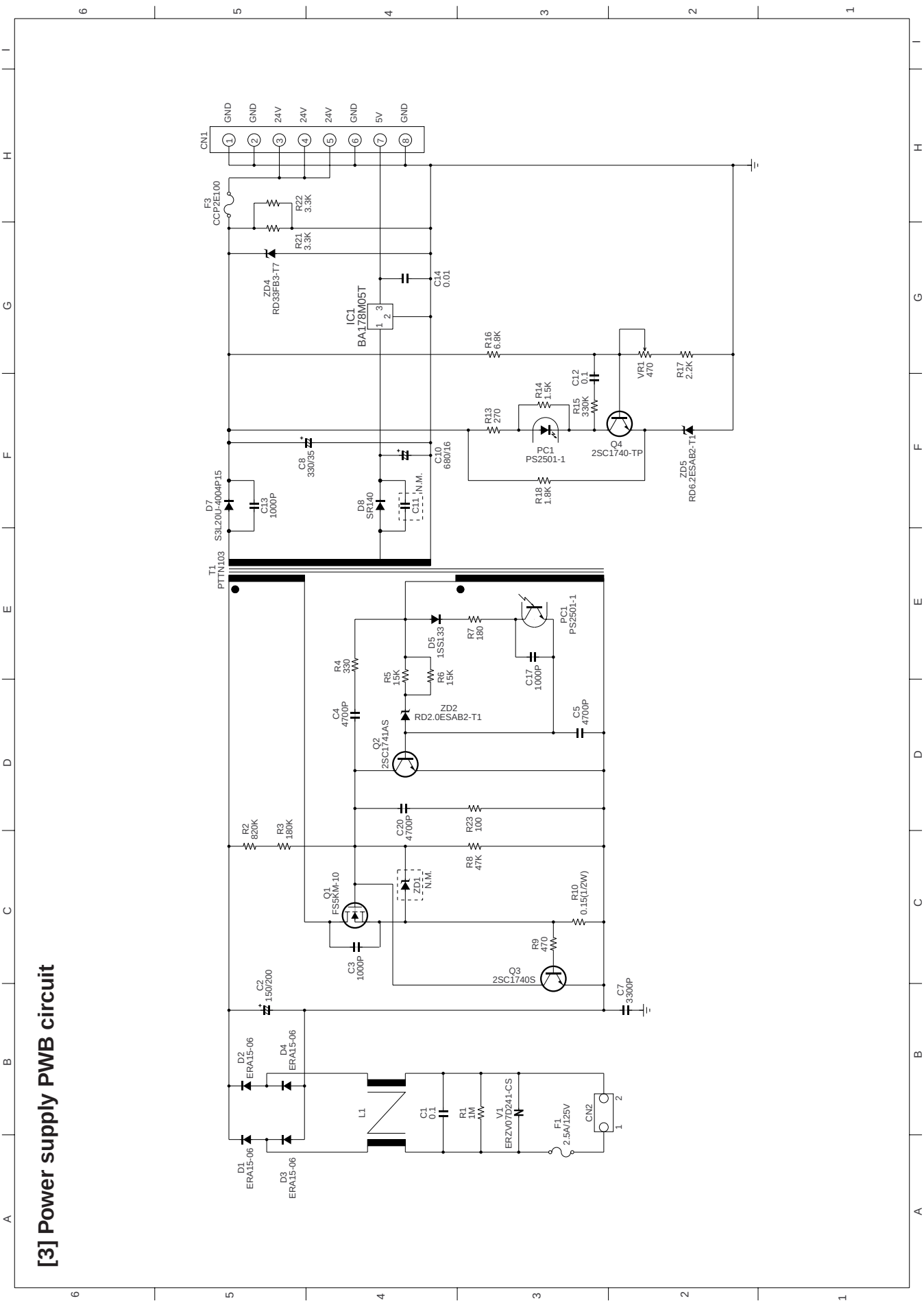
## [2] TEL/LIU PWB circuit



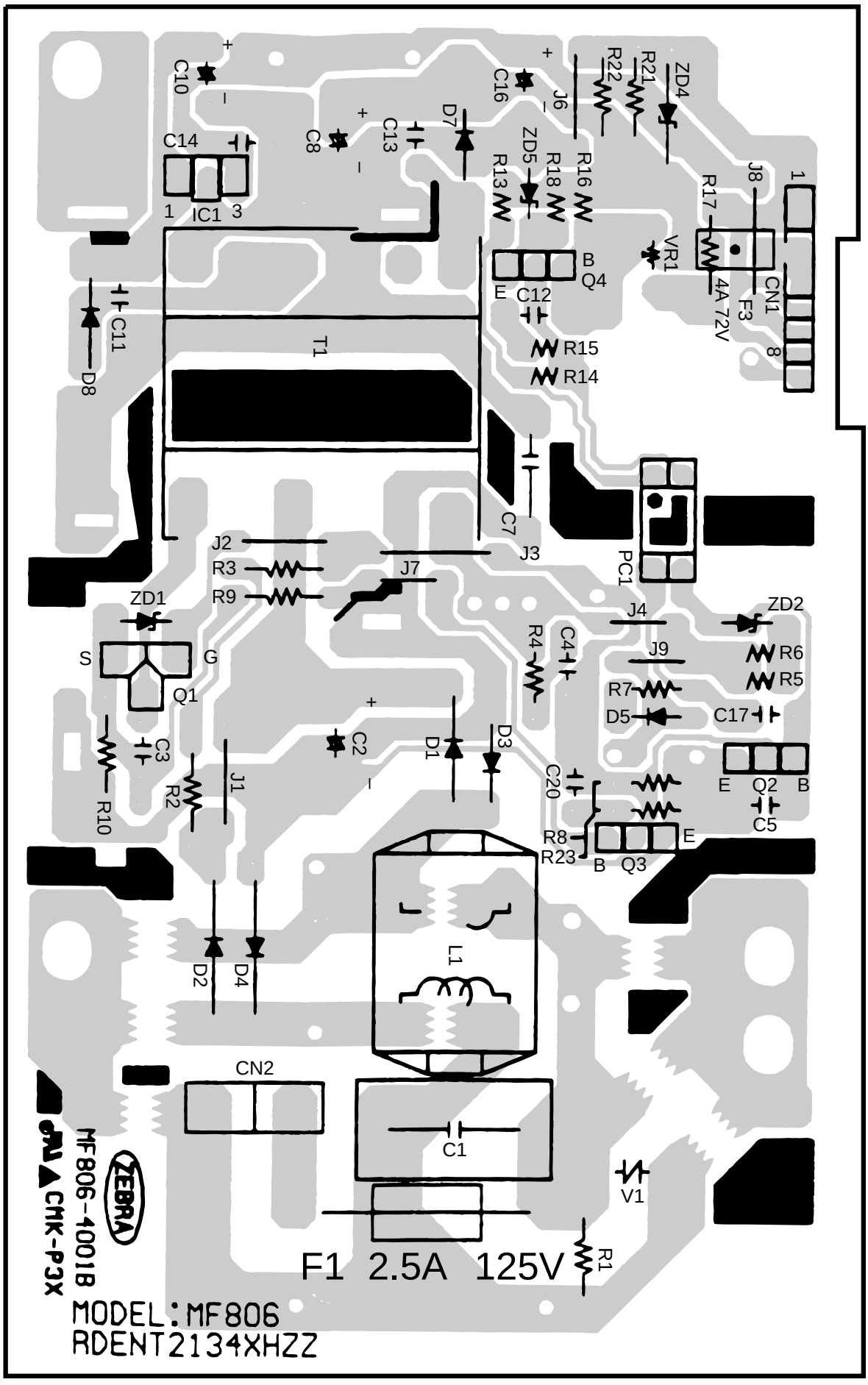
**TEL/LIU PWB parts layout**



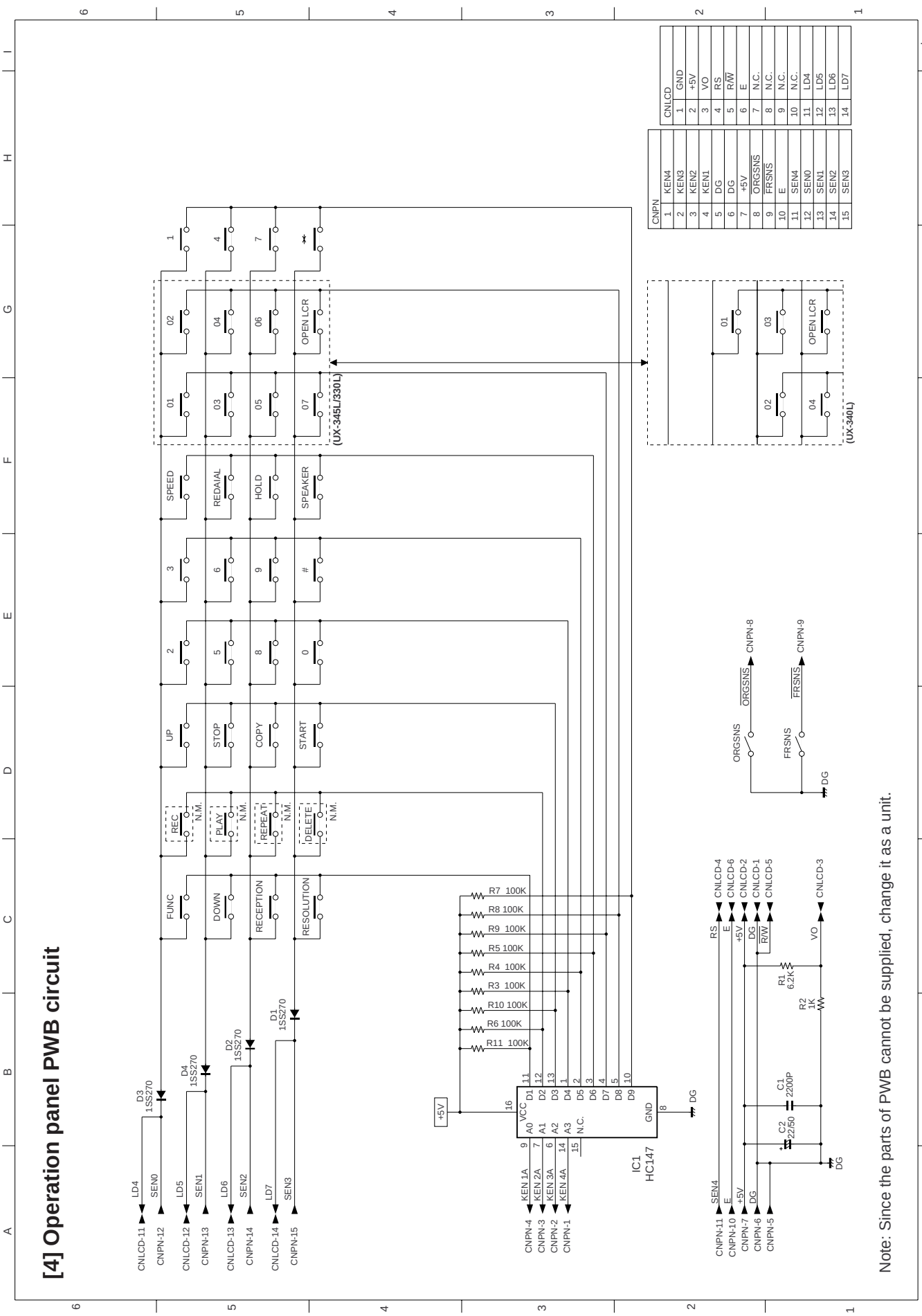
## [3] Power supply PWB circuit



**Power supply PWB parts layout**

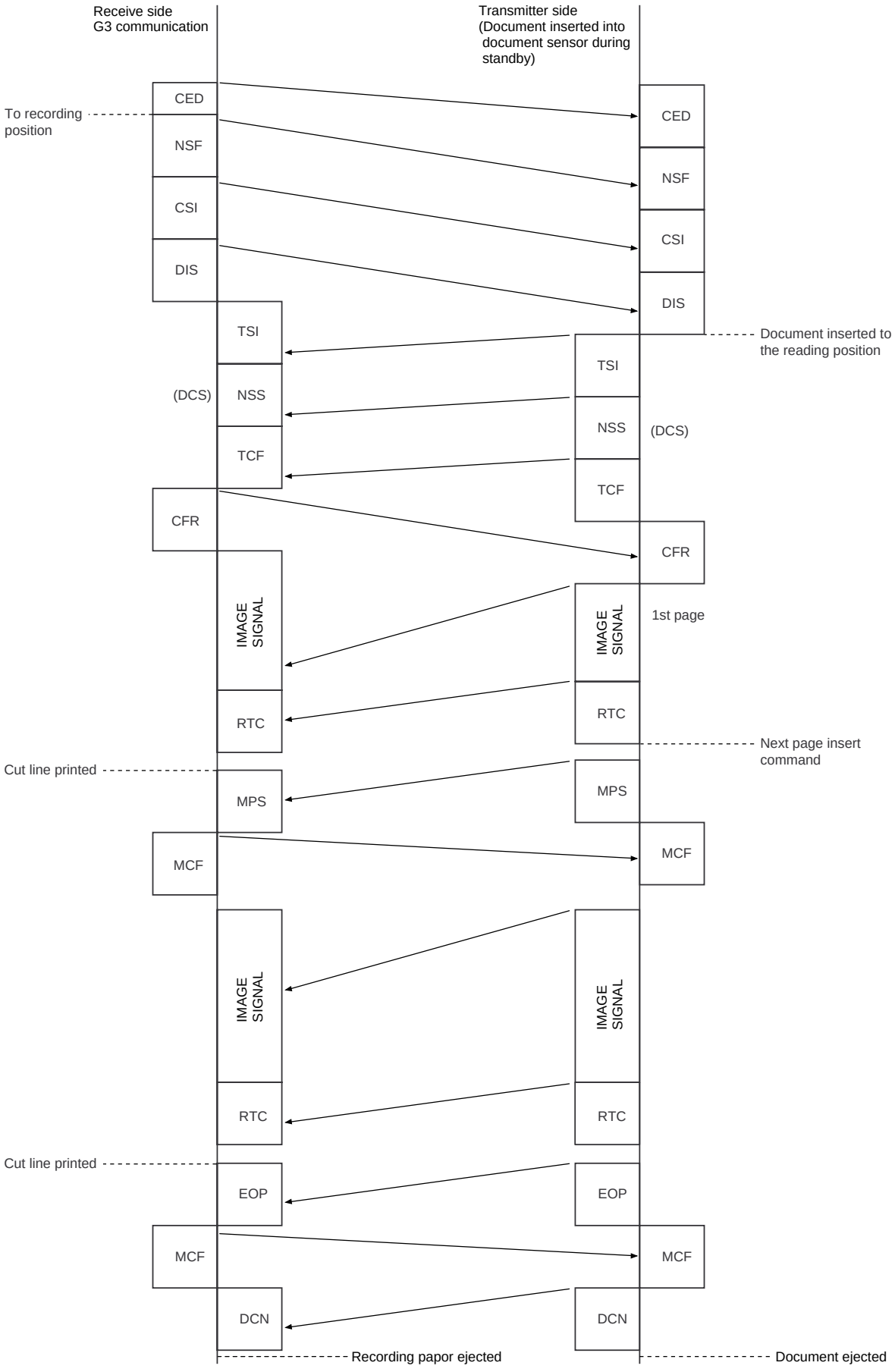


## [4] Operation panel PWB circuit

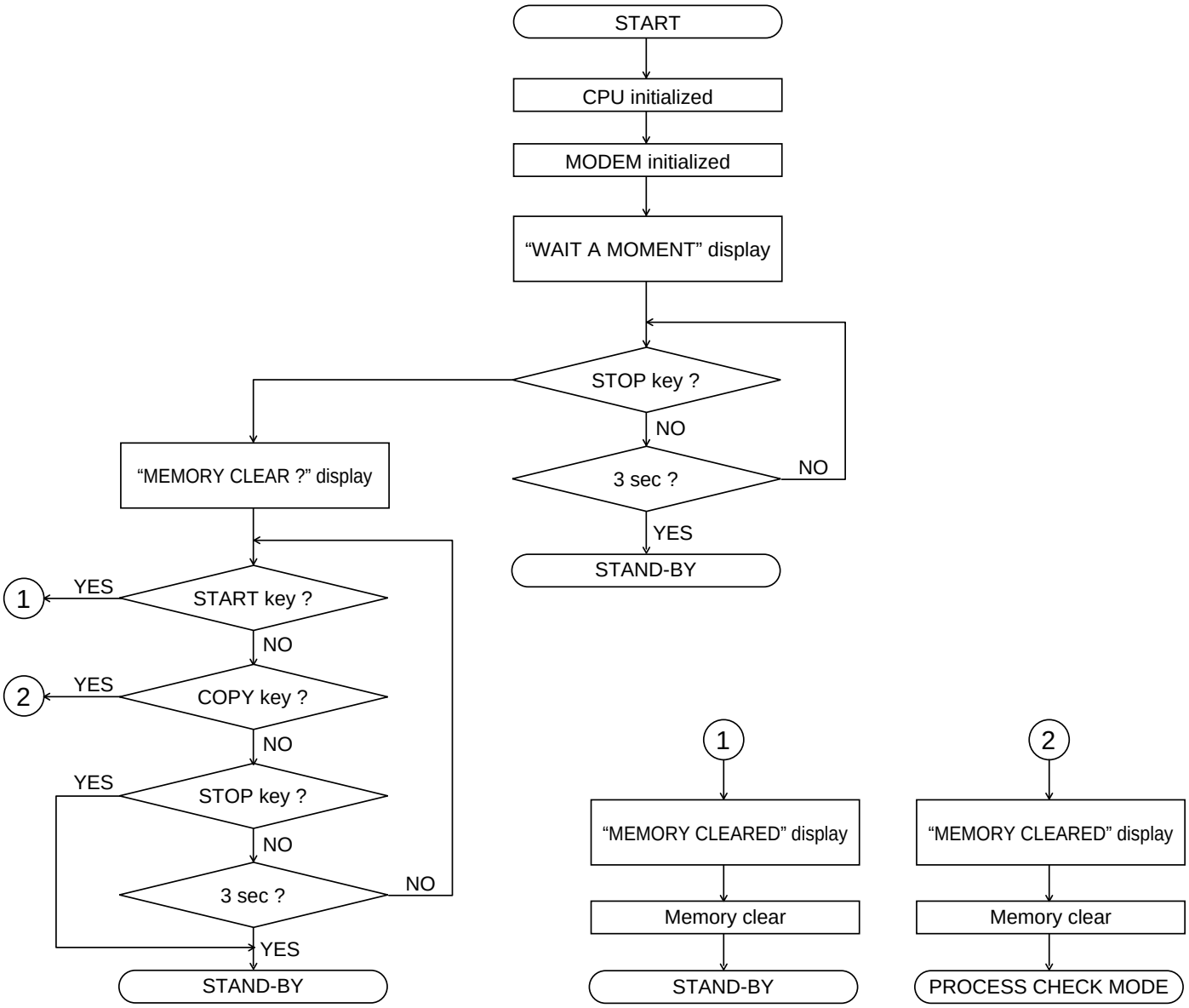


# CHAPTER 7. OPERATION FLOWCHART

## [1] Protocol



## [2] Power on sequence



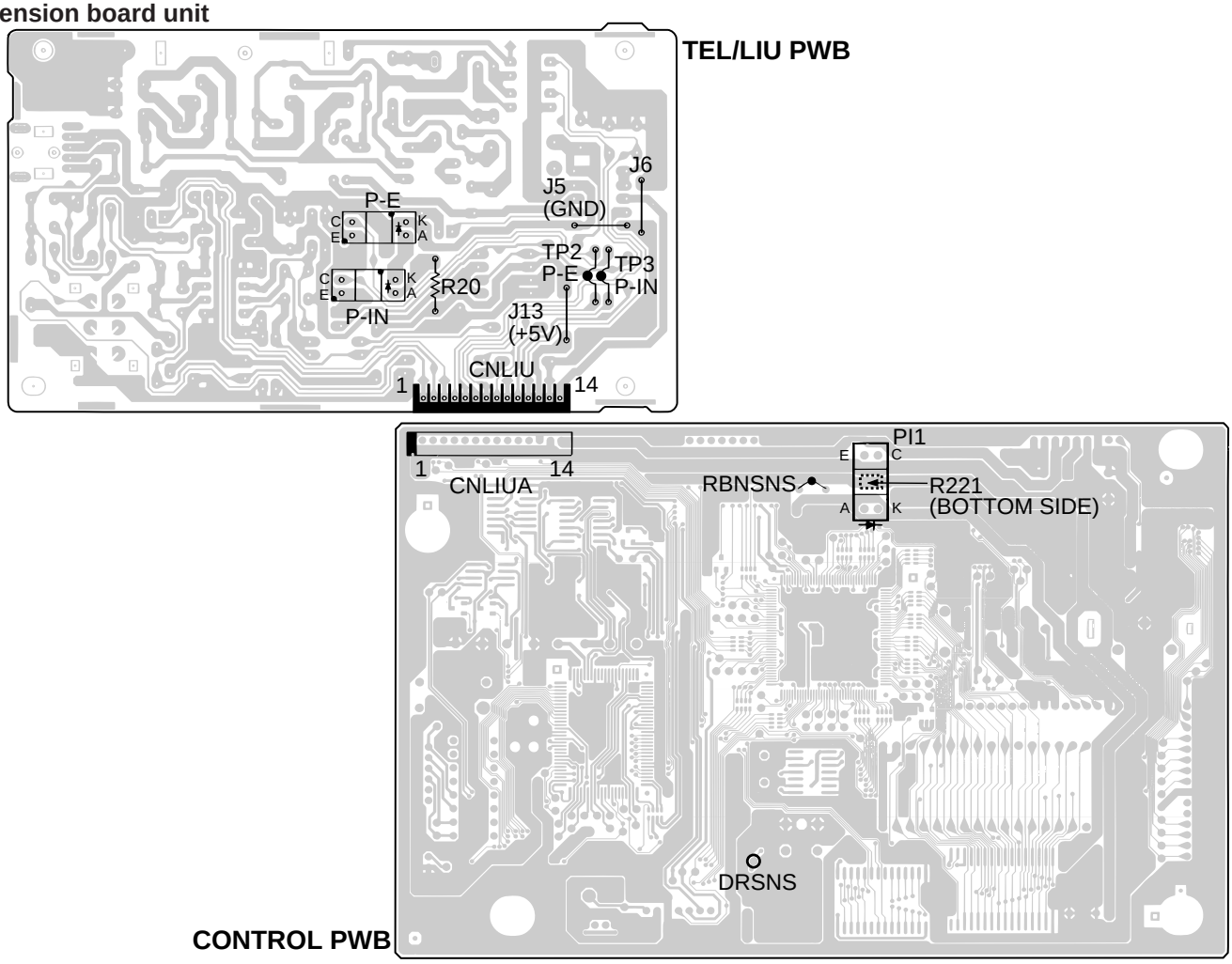
# CHAPTER 8. OTHERS

## [1] Service tools

### 1. List

| NO. | PARTS CODE | DESCRIPTION | Q'TY | PRICE RANK |
|---|---|---|---|---|
| 1 | C P W B S 3 0 0 2 S C S 1 | Extension board unit (Control PWB) | 1 | BK |
| 2 | C P W B F 3 0 0 3 S C S 1 | Extension board unit (TEL/LIU PWB) | 1 | BP |
| 3 | P S H E Z 3 3 5 4 S C Z Z | Shading wave memory standard paper | 1 | AD |

**Extension board unit**

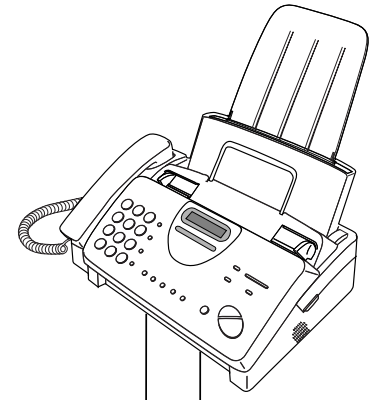



| NO. | PARTS CODE | DESCRIPTION | Q'TY | PRICE RANK |
|---|---|---|---|---|
| 1 | C C N W – 4 7 5 6 S C 0 1 | SPEAKER RELAY CABLE | 1 | AK |
| 2 | C C N W – 4 7 5 7 S C 0 1 | PANEL RELAY CABLE | 1 | AW |
| 3 | C C N W – 4 7 5 8 S C 0 1 | CIS RELAY CABLE | 1 | AQ |
| 4 | C C N W – 4 7 5 9 S C 0 1 | HEAD RELAY CABLE | 1 | AX |
| 5 | C C N W – 4 7 6 0 S C 0 1 | CAM SWITCH RELAY CABLE | 1 | AK |
| 6 | C C N W – 4 7 6 3 S C 0 1 | MOTOR RELAY CABLE | 1 | AP |
| 7 | Q C N W – 4 9 6 9 S C Z Z | PAPER SENSOR RELAY CABLE | 1 | BF |
| 8 | V R S – T S 2 A D 2 2 1 J | RESISTOR (1/10W 220Ω ±5%)[R221] | 1 | AA |
| 9 | V H P S G 2 0 6 S / / –1 | PHOTO TRANSISTOR [PI1] | 1 | AG |
| 10 | Q S W – M 2 2 5 9 X H Z Z | COVER SWITCH [SW1] | 1 | AF |
| 11 | Q C N C M 2 5 7 5 S C 1 D | CONNECTOR (14PIN)[CNLIUA] | 1 | AC |
| 12 | V R D – H T 2 E Y 1 0 1 J | RESISTOR (1/4W 100Ω ±5%)[R20] | 1 | AA |
| 13 | V H P S G 2 0 6 S / / –1 | PHOTO TRANSISTOR [P-IN] | 1 | AG |
| 14 | V H P S G 2 0 6 S / / –1 | PHOTO TRANSISTOR [P-E] | 1 | AG |
| 15 | Q C N C W 2 5 0 9 S C 1 D | CONNECTOR (14PIN)[CNLIU] | 1 | AF |

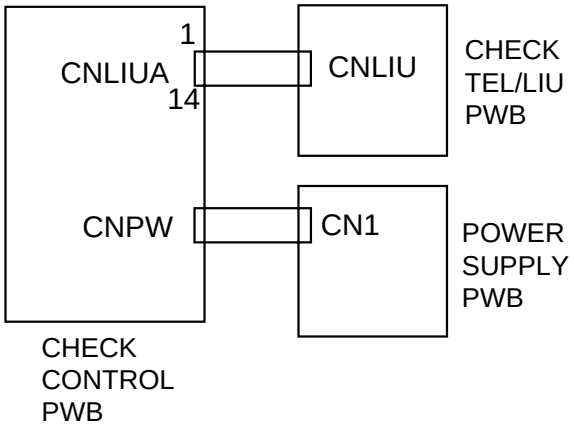
## 2. Description

### 2-1. Relay board unit

1. Remove the TEL/LIU PWB, control PWB and Power Supply PWB from this unit, and mount the relay board unit instead.
   - Before connecting the wiring to the relay board unit, set the test PWB switches to the fixed position.
2. The setting is as follows.



Relay cable



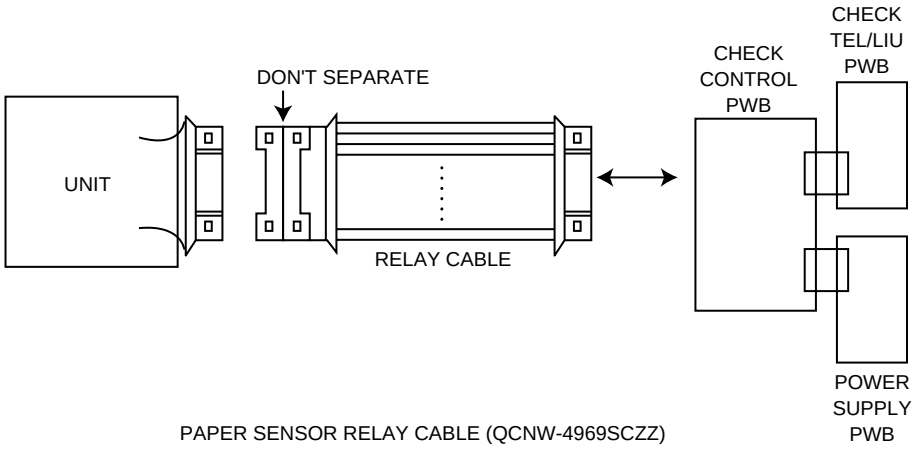

- The relay cables are used as one pair.
- The cover swich and hook switch are manually operated.

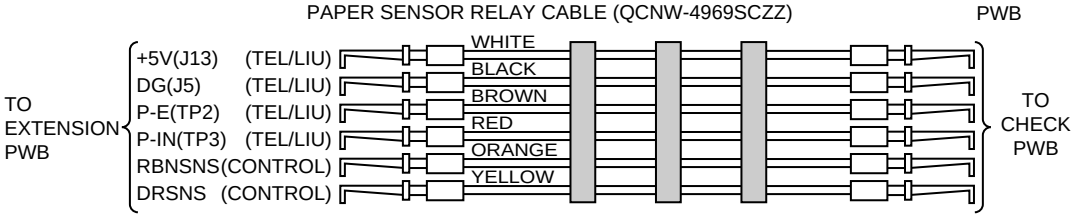
The recording paper sensor (P-E) and the hook switch are operated by OR of the mechanical unit switch and the test PWB switch. When performing installation in the machine unit, set the test PWB switches to the fixed position.

| | Mechanical unit | PWB to be tested |
|---|---|---|
| | Actual operation with mechanical unit | |
| Recording paper sensor | ON/OFF operation | OFF (Photo interrupter is interrupted.) |
| Hook SW | ON/OFF operation | ON-HOOK |
| | PWB sensor check | |
| Recording paper sensor | OFF | ON/OFF operation |
| Hook SW | ON-HOOK | ON/OFF operation |

* Recording paper: ON
No recording paper: OFF

NOTE



### 3. Shading paper

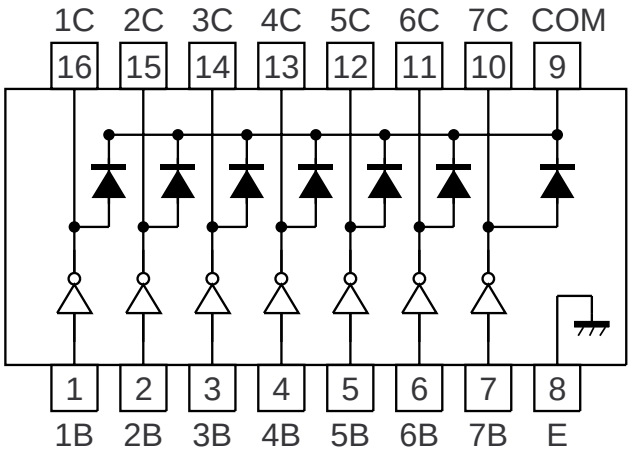
The white and black basis is applied to remember the shading waveform. Be sure to perform this operation when replacing the battery or replacing the control PWB. Execute in the shading mode of DIAG mode.

**UX-108 SERIES SHADING WAVE MEMORY STANDARD PAPER (PSHEZ3354SCZZ)**

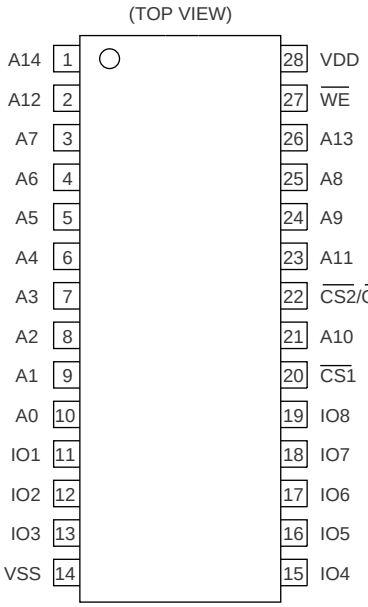
## [2] IC signal name

### CONTROL PWB UNIT

**IC5: VHiULN2003AN/ (ULN2003ANS)**

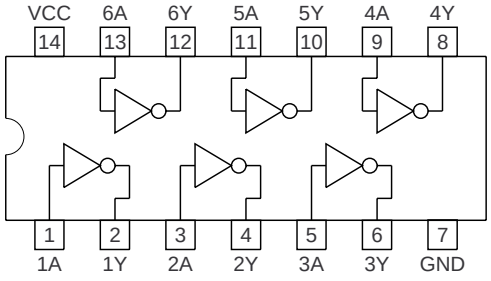



**IC3: VHiW24258S7LE (W24258S-70LE)**

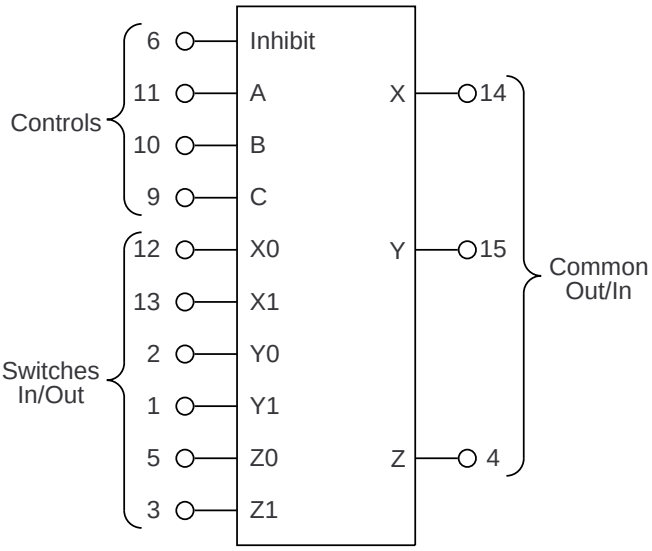



| Pin name | Signal |
|---|---|
| A0~A14 | Address input |
| CS1/CS2 | Chip enable |
| WE | Write enable |
| OE | Write enable |
| I/O1~I/O8 | Data I/O |
| VDD | Power source |
| VSS | Ground |

**IC7: VHiTC74HCU04F(TC74HCU04F)**

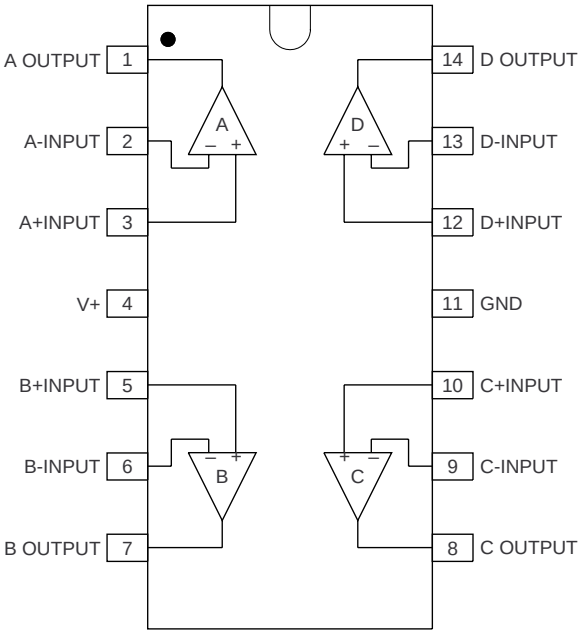



**IC11: VHiHCF4053M1T (HCF4053B)**

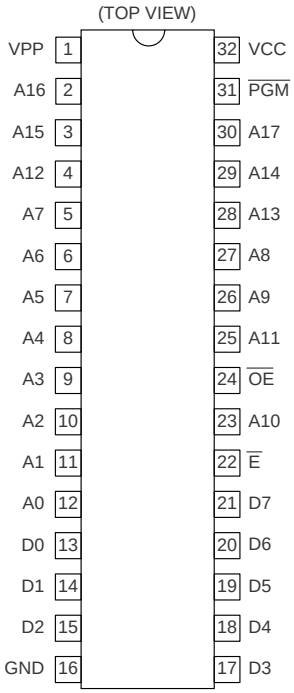



VDD: Pin 16
VSS: Pin 8
VEE: Pin7

**IC12: VHiNJM2902M-1 (NJM2902M)**



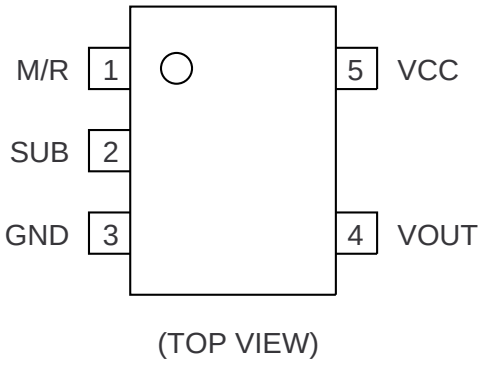

**IC4: VHi27C20012MX (27C020)**
**ROM**



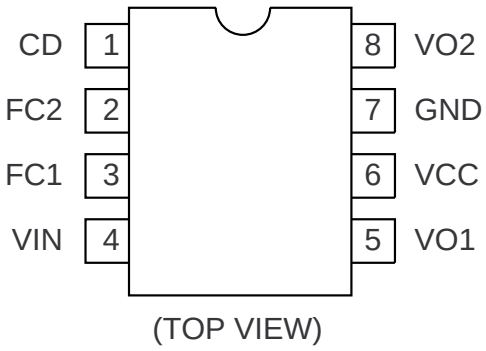

| Pin name | Signal |
|---|---|
| A0~A17 | Address input |
| $\overline{E}$ | Chip enable |
| $\overline{OE}$ | Output enable |
| GND | Ground |
| $\overline{PGM}$ | Program |
| D0~D7 | Data output (Program input) |
| VCC | +5V power |
| VPP | +12.5V power(*) |

(*) Only in the program mode

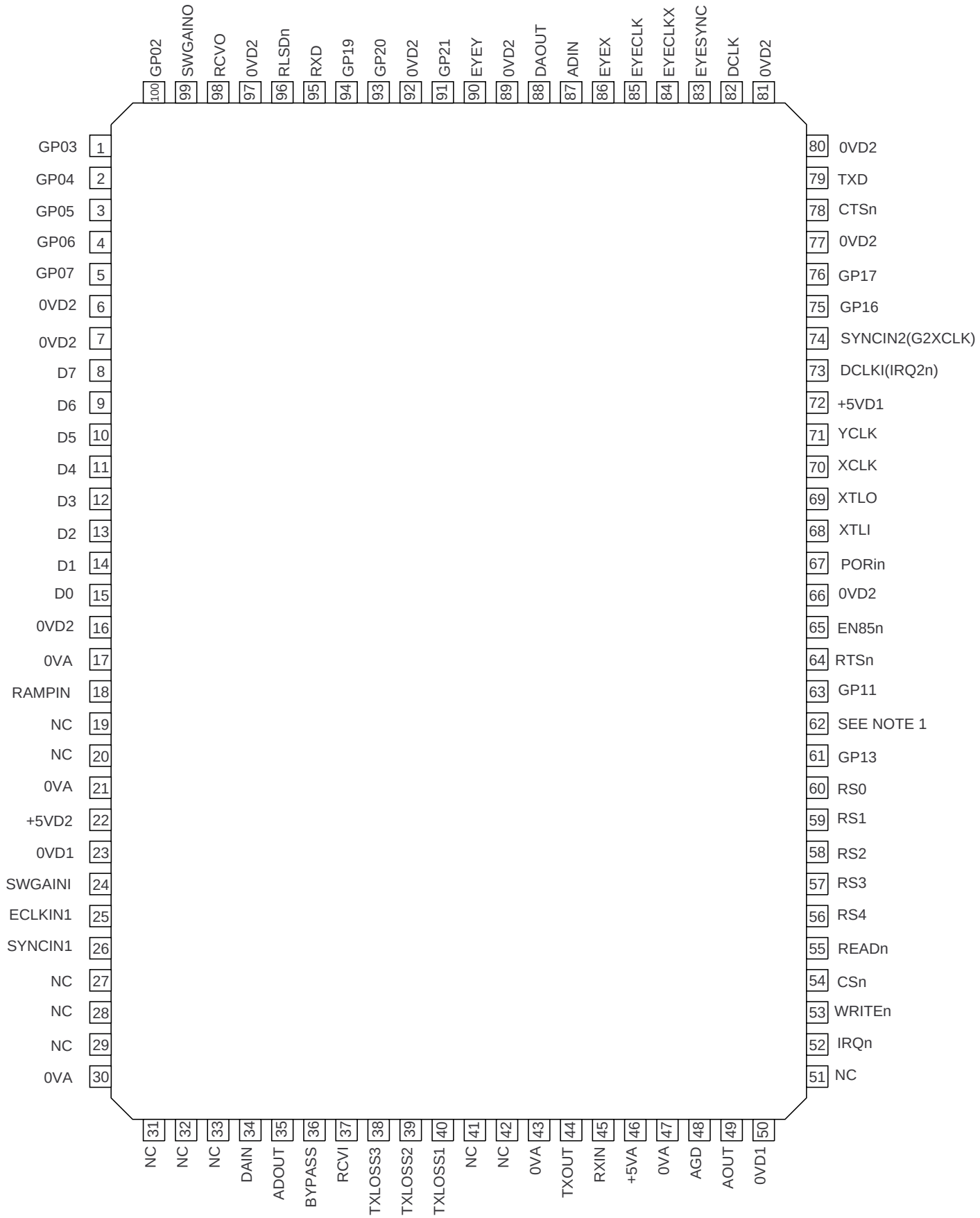
**IC8: VHiPST596CMT1 (PST596CNR)**



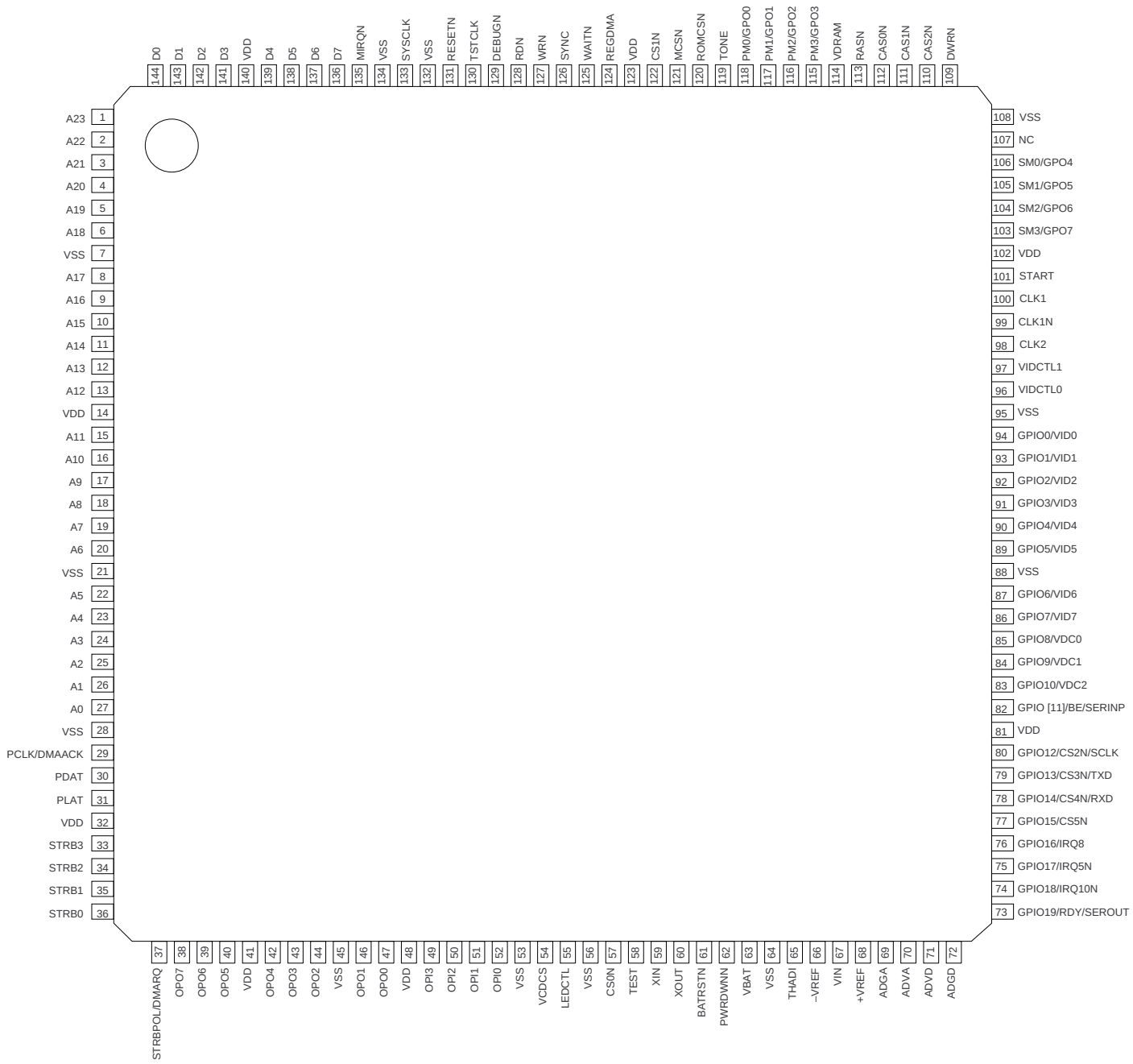

**IC10: VHiNJM2113M-1 (NJM2113M)**



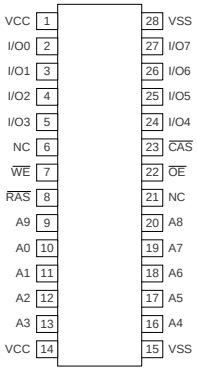
**IC6: VHiR96CiDFC1M (R96DFXL-CID)**



**IC9: VHiR96CiDFC1M (FC100M)**



**IC1: RH-IX2129SCZZ (M514800C-70J)**

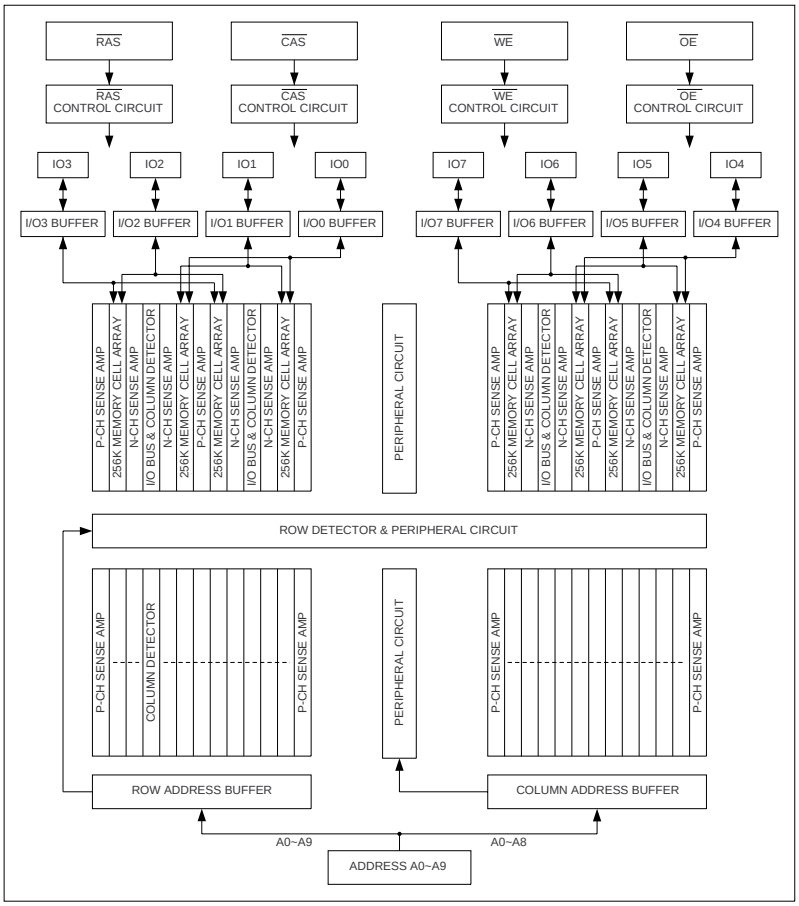



PIN DESCRIPTION

| PIN | PIN NAME |
|---|---|
| A0~A9 | ADDRESS INPUT (LOW/REFRESH A0~A3 COLUMN A0~A3) |
| I/O0~I/O7 | DATA I/O |
| $\overline{RAS}$ | LOW ADDRESS STROBE |

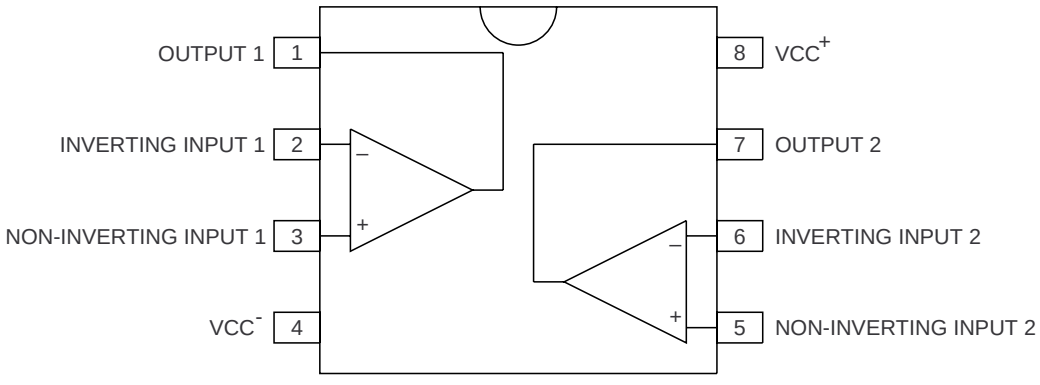
| PIN | PIN NAME |
|---|---|
| $\overline{CAS}$ | COLUMN ADDRESS STROBE |
| $\overline{WE}$ | READ/WRITE INPUT |
| $\overline{OE}$ | OUTPUT ENABLE |
| VCC | POWER (+5V) |
| VSS | CONNECTION |

BLOCK DIAGRAM




**TEL/LIU PWB UNIT**

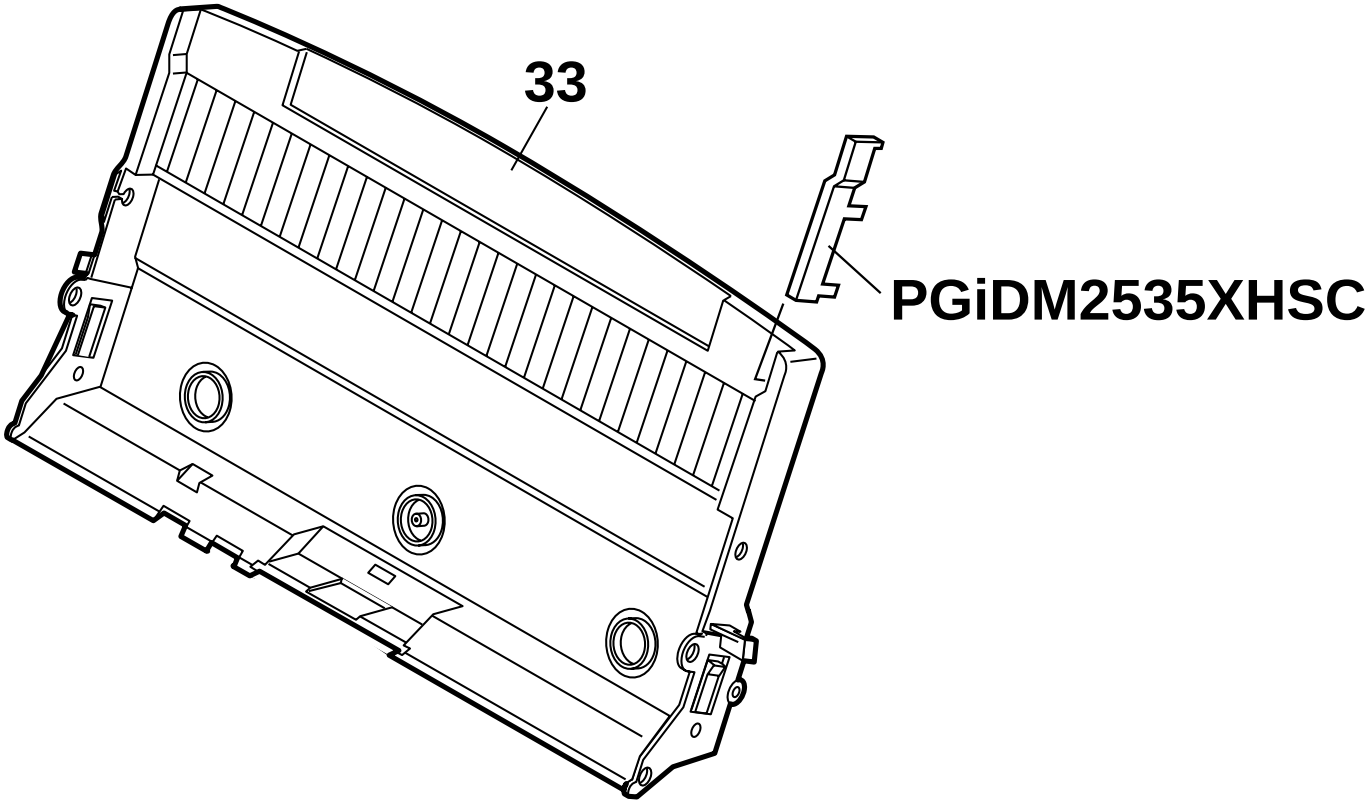
**IC1: VHiNJM2904D-1 (NJM2904D)**



## [3] Changing the record paper size

### How to change the A4 size and letter size of the record papers

1) It becomes the record paper of the A4 size by installing A4 guide (PGiDM2535XHSC) which shows in the drawing. Remove A4 guide when you use the record paper of the letter size.




2) Set soft switch SW-L2 No.1 and the initialization of SW-L2 No.2 as follows.

| SW NO. | DATA NO. | ITEM | Switch setting and function | | | | Initial setting | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | 1 | | 0 | | | |
| SW L2 | | Paper set size | | LETTER | LEGAL | A4 | | OPTION |
| | 1 | | No. 1 | 0 | 0 | 1 | 0 | |
| | 2 | | No. 2 | 0 | 1 | 0 | 0 | |

M E M O

SHARP **PARTS GUIDE**

# UX-340L
# UX-345L
# MODEL UX-330L

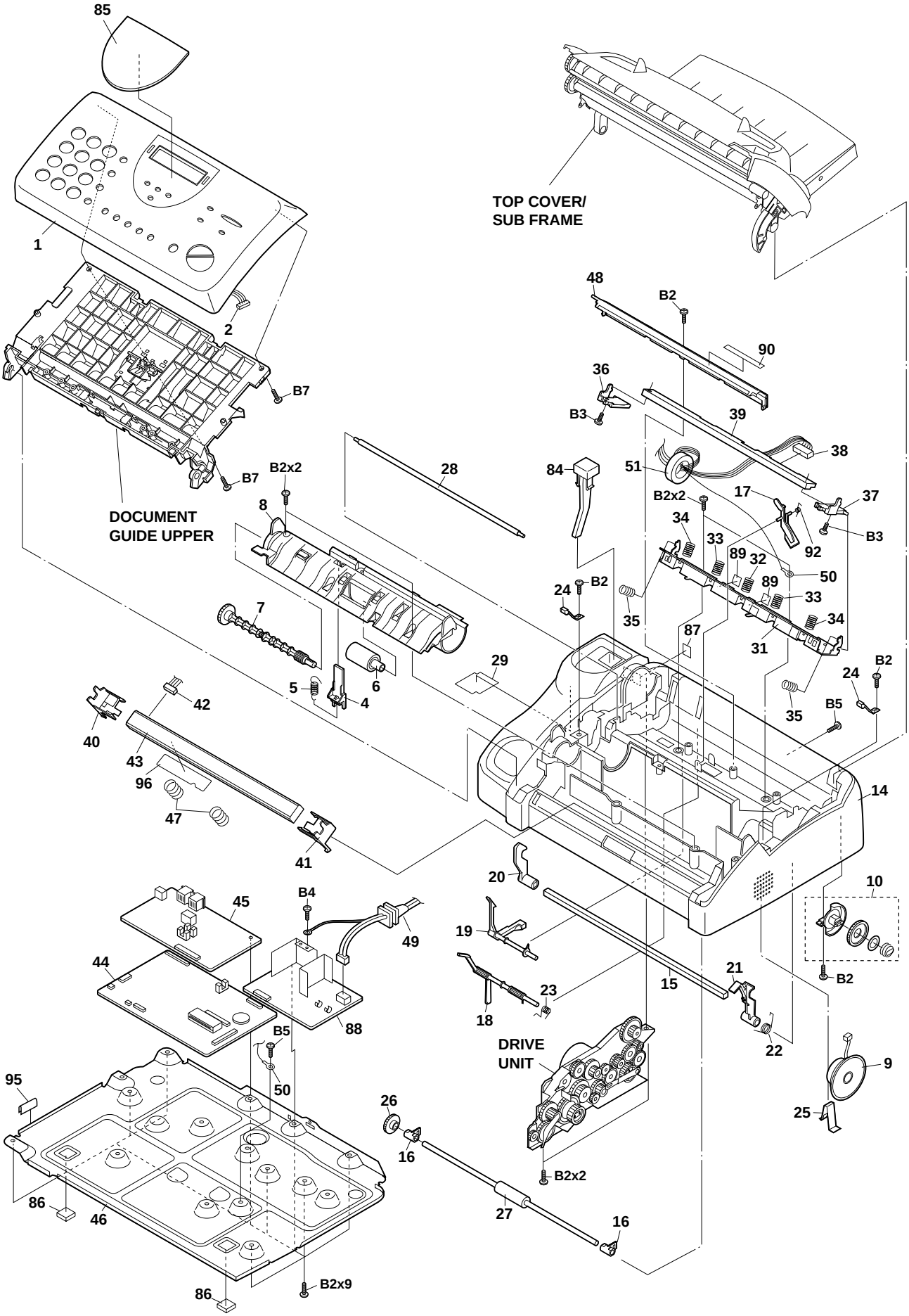
CONTENTS



Because parts marked with "⚠" is indispensable for the machine safety maintenance and operation, it must be replaced with the parts specific to the product specification.

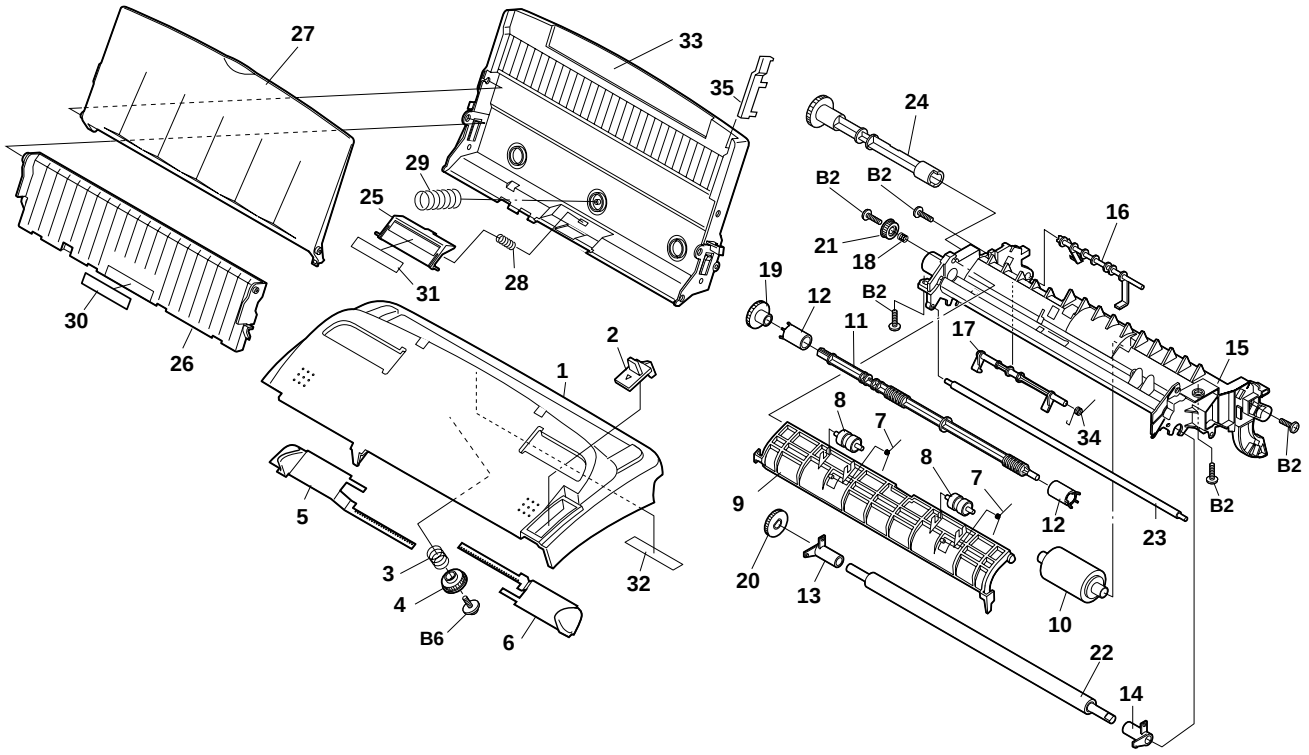
UX-340L/UX-345L
UX-330L

[1] Cabinet, etc.



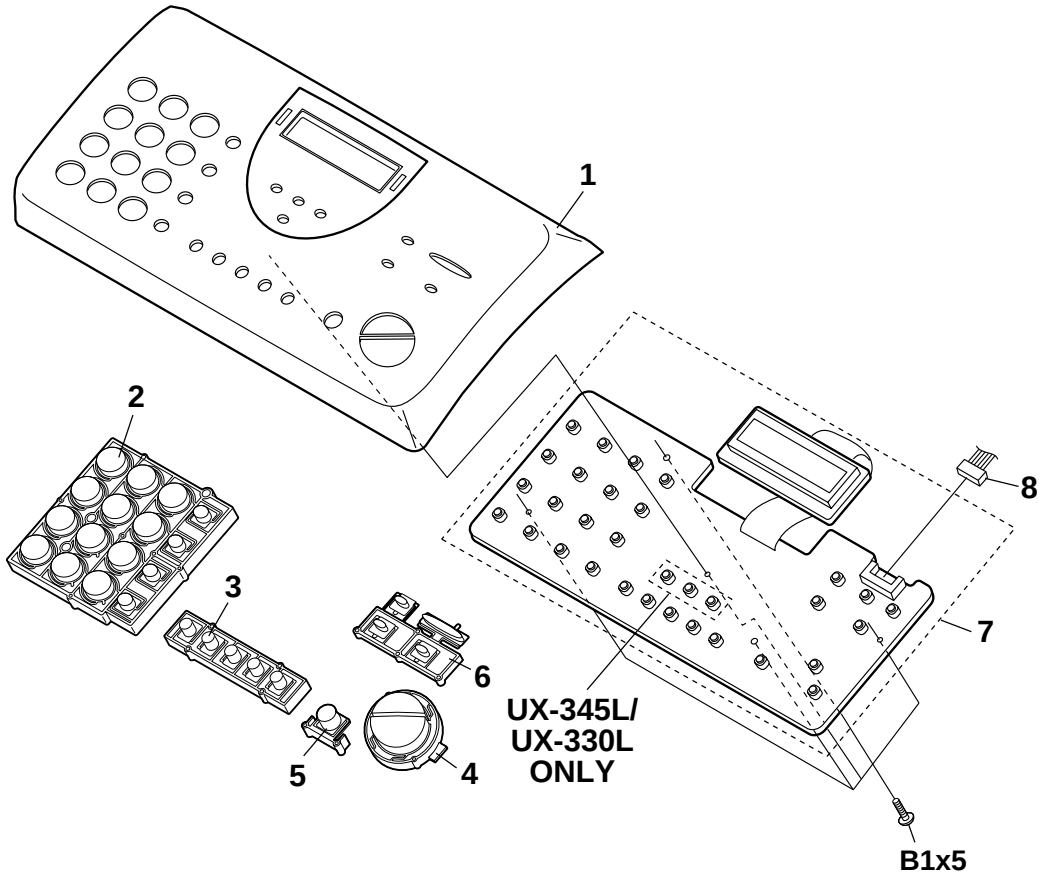
| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [1] Cabinet,etc. | | | | | | |
| 1 | DCEKP440BXH54 | BG | N | E | Operation panel unit | [340L] |
| | DCEKP440BXH55 | BG | N | E | Operation panel unit | [345L] |
| | DCEKP440BXH65 | BG | N | E | Operation panel unit | [330L] |
| 2 | QCNW-231AXHZZ | AG | | C | Panel cable | |
| 4 | MLEVP2297XHZZ | AC | | C | Cover switch lever | |
| 5 | MSPRT3069XHFJ | AB | | C | Cover switch spring | |
| 6 | NROLR2375XHZZ | AL | | C | Feed roller | |
| 7 | NSFTP2302XHZZ | AD | | C | Feed roller shaft | |
| 8 | PGIDM2538XHZZ | AM | | C | Original paper guide | |
| 9 | CCNW-4938XH01 | AL | | C | Speaker ass'y | |
| 10 | CGERH2444XHY1 | AF | | C | BT gear ass'y | |
| 14 | GCABB2325XHSA | BA | | D | Lower cabinet | [340L] |
| | GCABB2325XHSG | AZ | | D | Lower cabinet | [345L/330L] |
| 15 | LANGF2817XHFW | AF | | C | Platen lock bracket | |
| 16 | LBSHP2088AXZZ | AC | | C | Transfer bearing | |
| 17 | MLEVP2290XHZZ | AC | | C | Film sensor lever | |
| 18 | MLEVP2292XHZZ | AD | | C | PE sensor lever B | |
| 19 | MLEVP2294XHZZ | AD | | C | P-IN sensor lever B | |
| 20 | MLEVP2295XHZZ | AD | | C | Platen lock lever,left | |
| 21 | MLEVP2296XHZZ | AD | | C | Platen lock lever,right | |
| 22 | MSPRD3082XHFJ | AC | | C | Platen lock spring | |
| 23 | MSPRD3073XHFJ | AB | | C | Sensor spring B | |
| 24 | MSPRP3054XHFJ | AD | | C | Panel lock lever spring | |
| 25 | MSPRP3055XHFJ | AD | | C | Speaker holder plate spring | |
| 26 | NGERH2445XHZZ | AB | | C | Back roller gear | |
| 27 | NROLR2410XHZZ | AP | | C | PO roller | |
| 28 | NSFTM2311XHZZ | AG | | C | Film guide shaft | |
| 29 | PSHEZ3443XHZZ | AE | | C | Sheet A | |
| 31 | LFRM-2198XHZZ | AK | | C | Head frame | |
| 32 | MSPRC3103XHFJ | AC | | C | Head spring F | |
| 33 | MSPRC3059XHFJ | AC | | C | Head spring B | |
| 34 | MSPRC3102XHFJ | AC | | C | Head spring E | |
| 35 | MSPRC3061XHFJ | AB | | C | Head spring D | |
| 36 | PGIDM2531XHZZ | AD | | C | Head guide,left | |
| 37 | PGIDM2532XHZZ | AD | | C | Head guide,right | |
| 38 | QCNW-4936XHZZ | AN | | C | Head cable | |
| 39 | RHEDZ2058XHZZ | BR | | B | Thermal head | |
| 40 | PGIDM2529XHZZ | AD | | C | CIS guide,left | |
| 41 | PGIDM2530XHZZ | AD | | C | CIS guide,right | |
| 42 | QCNW-4939XHZZ | AF | | C | CIS cable | |
| 43 | RUNTZ2037XHZZ | BL | | B | CIS unit | |
| 44 | DCEKC882MXHZZ | BX | N | E | Control PWB unit(Within ROM) | [340L] |
| | DCEKC883MXHZZ | BX | N | E | Control PWB unit(Within ROM) | [345L] |
| | DCEKC785NXHZZ | BZ | N | E | Control PWB unit(Within ROM) | [330L] |
| 45 | DCEKL451BXH04 | BD | N | E | TEL-Liu PWB unit | |
| 46 | LPLTM2995XHFW | AS | | C | Bottom plate | |
| 47 | MSPRC3057XHFJ | AC | | C | CIS spring | |
| 48 | PCOVP2122XHZZ | AK | | C | Head cover | |
| 49 | QACCD2027XHZZ | AR | | B | AC cord ass'y | |
| 50 | QCNW-4971XHZZ | AD | | C | Head earth cable | |
| ⚠ 51 | RCORF2125XHZZ | AE | | B | Core | |
| 84 | MLEVP2302XHZZ | AC | | C | Hook swith lever | |
| 85 | HPNLH2389XHSA | AB | | D | Decoration panel | [340L/330L] |
| | HPNLH2391XHSH | AG | N | D | Decoration panel | [345L] |
| 86 | GLEGG2068XHZZ | AC | | C | Rubber leg | |
| 87 | PSHEZ3410XHZZ | AB | | C | Jack sheet | |
| ⚠ 88 | RDENT2134XHZZ | BG | | E | Power supply PWB unit | |
| 89 | PCUSS2120XHZZ | AB | | C | Head cushion | |
| 90 | PSHEZ3429XHZZ | AD | | C | Head guide sheet | |
| 92 | MSPRD3104XHFJ | AC | | C | Film sensor lever spring | |
| 95 | PSHEZ3432XHZZ | AE | | C | Bottom plate sheet | |
| 96 | PSHEZ3436XHZZ | AC | | C | CIS protect sheet | |
| B2 | XEBSD30P10000 | AA | | C | Screw(3x10) | |
| B3 | XBBSD30P06000 | AA | | C | Screw(3x6) | |
| B4 | XBPSN40P06K00 | AA | | C | Screw(4x6) | |
| B5 | XHBSD30P05000 | AA | | C | Screw(3x5) | |
| B7 | XEBSD30P08000 | AA | | C | Screw(3x8) | |

[2] Top cover and sub frame



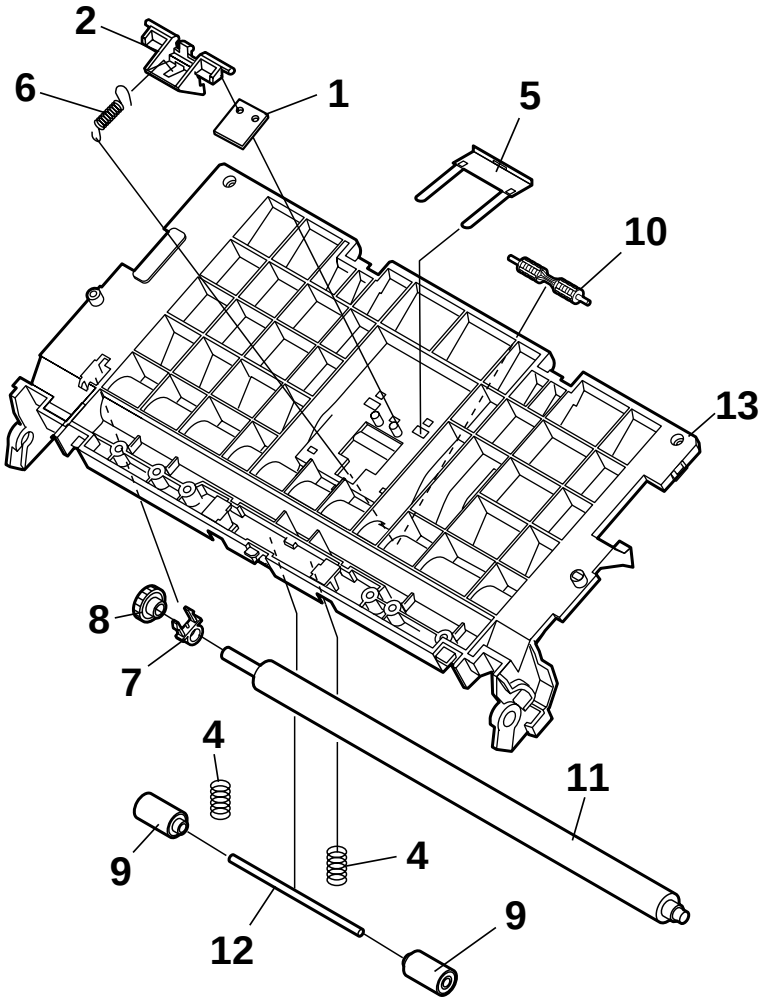

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [2] Top cover and sub frame | | | | | | |
| 1 | GCOVA2403XHSA | AL | | C | Top cover | [340L] |
| | GCOVA2403XHSD | AL | | C | Top cover | [345L/330L] |
| 2 | JKNBP2091XHZZ | AC | | C | Release knob | |
| 3 | MSPRC2832XHZZ | AC | | C | Hopper spring | |
| 4 | NGERP2318XHZZ | AD | | C | Pinion gear | |
| 5 | PGIDM2533XHSA | AD | | C | Hopper guide,left | [340L] |
| | PGIDM2533XHSD | AD | | C | Hopper guide,left | [345L/330L] |
| 6 | PGIDM2534XHSA | AD | | C | Hopper guide,right | [340L] |
| | PGIDM2534XHSD | AD | | C | Hopper guide,right | [345L/330L] |
| 7 | MSPRD3065XHFJ | AB | | C | PO pinch roller spring | |
| 8 | NROLP2332XHZZ | AD | | C | PO pinch roller | |
| 9 | PGIDM2537XHZA | AF | | C | PO guide | |
| 10 | CROLR2434XH01 | AH | N | C | PU roller ass'y | |
| 11 | NROLR2408XHZZ | AD | | C | PO roller | |
| 12 | PGUMR2160XHZZ | AE | | C | PO roller rubber | |
| 13 | LBSHP2104XHZA | AC | | C | Platen bearing,left | |
| 14 | LBSHP2105XHZZ | AC | | C | Platen bearing,right | |
| 15 | LFRM-2199XHZA | AK | | C | Sub frame | |
| 16 | MLEVP2291XHZZ | AD | | C | PE sensor lever | |
| 17 | MLEVP2293XHZZ | AD | | C | P-IN sensor lever | |
| 18 | MSPRC3064XHFJ | AC | | C | Tension spring | |
| 19 | NGERH2441XHZZ | AC | | C | PO gear | |
| 20 | NGERH2442XHZZ | AC | | C | Platen gear | |
| 21 | NGERH2460XHZZ | AC | | C | Tension gear | |
| 22 | NROLR2409XHZZ | AW | | C | Platen roller | |
| 23 | NSFTM2311XHZZ | AG | | C | Film guide shaft | |
| 24 | NSFTP2304XHZZ | AD | | C | PU shaft | |
| 25 | LPLTP2997XHZZ | AD | | C | Separate plate | |
| 26 | LPLTP2998XHZZ | AF | | C | Rotation plate | |
| 27 | LPLTP3001XHSA | AH | | C | RP release plate | [340L] |
| | LPLTP3001XHSE | AH | | C | RP release plate | [345L/330L] |
| 28 | MSPRC3062XHFJ | AB | | C | Separate spring | |
| 29 | MSPRC3063XHFJ | AC | | C | C-spring | |
| 30 | PSEL-2015SCZZ | AB | | C | RP pad | |
| 31 | PSHEZ3293XHZZ | AH | | C | Separate plate sheet | |
| 32 | PSHEZ3431XHZZ | AC | | C | TC sheet | |
| 33 | PHOP-2101XHSA | AK | | C | RP hopper | [340L] |
| | PHOP-2101XHSD | AK | | C | RP hopper | [345L/330L] |
| 34 | MSPRD3105XHFJ | AC | | C | P-IN sensor lever spring | |
| B2 | XEBSD30P10000 | AA | | C | Screw(3x10) | |
| B6 | LX-BZ2138XHZZ | AB | | C | Screw | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

[3] Upper cabinet



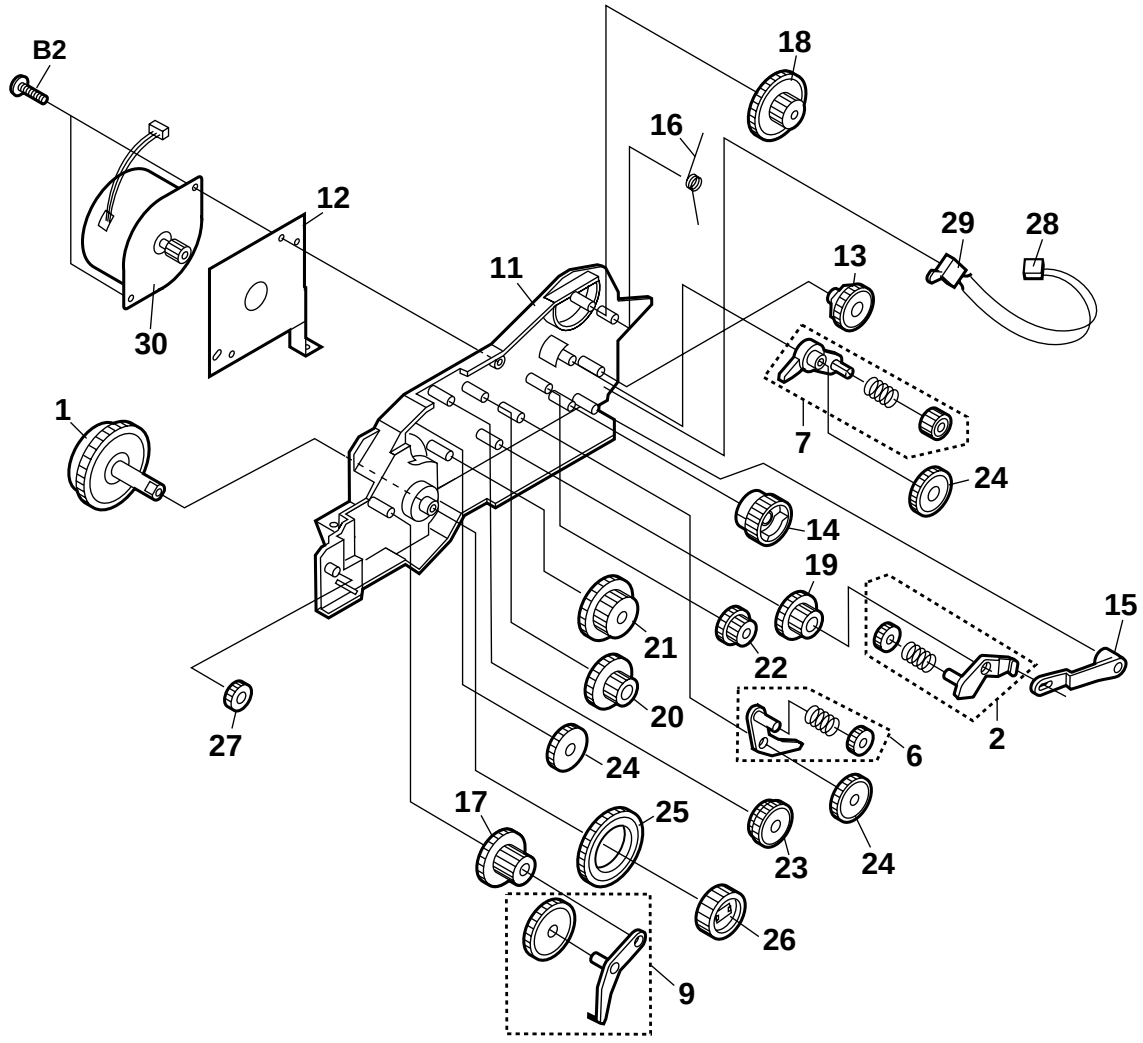

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [3] Upper cabinet | | | | | | |
| 1 | GCABA2324XHZU | AR | N | D | Upper cabinet | [340L] |
| | GCABA2324XHZV | AR | N | D | Upper cabinet | [345L] |
| | GCABA2324XHZY | AM | N | D | Upper cabinet | [330L] |
| 2 | JBTN-2242XHSA | AG | | C | 12 key | [340L] |
| | JBTN-2242XHSD | AG | | C | 12 key | [345L/330L] |
| 3 | JBTN-2243XHSA | AE | | C | Direct key | [340L] |
| | JBTN-2252XHSA | AE | | C | Direct key | [345L/330L] |
| 4 | JBTN-2244XHSA | AD | | C | Start key | |
| 5 | JBTN-2245XHSA | AD | | C | Stop key | |
| 6 | JBTN-2246XHSA | AD | | C | Mode key | [340L] |
| | JBTN-2246XHSD | AD | | C | Mode key | [345L/330L] |
| 7 | DCEKP450BXH01 | BF | | E | Operation panel PWB unit | [340L] |
| | DCEKP450BXH02 | BD | | E | Operation panel PWB unit | [345L/330L] |
| 8 | QCNW-231AXHZZ | AG | | C | Panel cable | |
| B1 | XEBSD20P06000 | AA | | C | Screw(2x6) | |
| | (Unit) | | | | | |
| 901 | DCEKP440BXH54 | BG | N | E | Operation panel unit | [340L] |
| | DCEKP440BXH55 | BG | N | E | Operation panel unit | [345L] |
| | DCEKP440BXH65 | BG | N | E | Operation panel unit | [330L] |

[4] Document guide upper



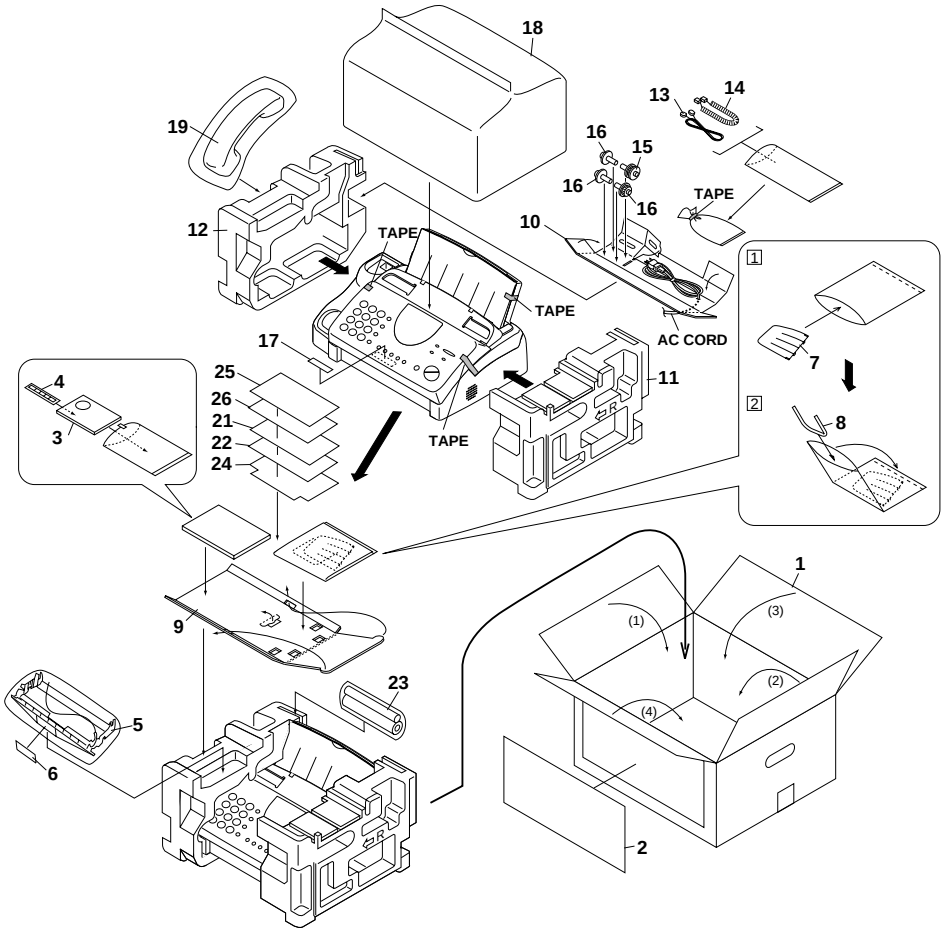

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION |
|---|---|---|---|---|---|
| [4] Document guide upper | | | | | |
| 1 | LPLTG2911XHZZ | AE | | C | Separator rubber |
| 2 | LPLTP2908XHZZ | AE | | C | Separator plate |
| 4 | MSPRC3071XHFJ | AB | | C | Pinch roller spring |
| 5 | MSPRP3079XHFJ | AE | | C | Paper feed spring |
| 6 | MSPRT2951XHZZ | AC | | C | Separate spring |
| 7 | NBRGP2141XHZZ | AH | | C | Transfer bearing |
| 8 | NGERH2445XHZZ | AB | | C | Back roller gear |
| 9 | NROLP2334XHZA | AC | | C | Pinch roller |
| 10 | NROLP2406XHZZ | AD | | C | Guide roller |
| 11 | NROLR2411XHZZ | AV | | C | Back roller |
| 12 | NSFTZ2257XHZZ | AG | | C | Pinch roller shaft |
| 13 | PGIDM2536XHZZ | AK | | C | Document guide upper |

[5] Drive unit




| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION |
|---|---|---|---|---|---|
| [5] Drive unit | | | | | |
| 1 | CGERH2459XH01 | AM | | C | Slip gear ass'y |
| 2 | CLEVP2298XH01 | AC | | C | Planet gear lever A ass'y |
| 6 | CLEVP2299XH01 | AC | | C | Planet gear lever B ass'y |
| 7 | CLEVP2300XH01 | AC | | C | Planet gear lever C ass'y |
| 9 | CLEVP2303XH01 | AC | | C | Planet gear lever D ass'y |
| 11 | LFRM-2200XHZA | AK | N | C | Drive unit frame |
| 12 | LPLTM2994XHFW | AE | | C | Motor plate |
| 13 | MCAMP2025XHZZ | AB | | C | Cam A |
| 14 | MCAMP2026XHZZ | AB | | C | Cam B |
| 15 | MLEVP2301XHZZ | AB | | C | Link lever |
| 16 | MSPRD3070XHFJ | AB | | C | Cam hold spring |
| 17 | NGERH2280XHZZ | AC | | C | Idler gear B |
| 18 | NGERH2311XHZZ | AD | | C | Reduction gear C |
| 19 | NGERH2446XHZZ | AB | | C | Reduction gear,1 |
| 20 | NGERH2447XHZZ | AB | | C | Reduction gear,2 |
| 21 | NGERH2448XHZZ | AB | | C | Reduction gear,3 |
| 22 | NGERH2449XHZZ | AB | | C | Reduction gear,4 |
| 23 | NGERH2450XHZZ | AB | | C | Reduction gear,5 |
| 24 | NGERH2451XHZZ | AB | | C | Idler gear,30Z |
| 25 | NGERH2452XHZZ | AB | | C | Idler gear,52Z |
| 26 | NGERH2454XHZZ | AB | | C | Take up gear |
| 27 | NGERH2461XHZZ | AB | | C | Reduction gear,6 |
| 28 | QCNW-4933XHZZ | AC | | C | Cam switch cable |
| 29 | QSW-F2224SCZZ | AE | | B | Cam switch |
| 30 | RMOTZ2145XHZZ | BA | | B | Motor |
| B2 | XEBSD30P10000 | AA | | C | Screw(3x10) |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

[6] Packing material & Accessories




| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [6] Packing material & Accessories | | | | | | |
| 1 | SPAKC278BXHZZ | AM | N | D | Packing case | [340L] |
| | SPAKC280BXHZZ | AM | N | D | Packing case | [345L] |
| | SPAKC443BXHZZ | AM | N | D | Packing case | [330L] |
| 2 | TLABM478AXHZZ | AF | N | D | Box label | [340L] |
| | TLABM479AXHZZ | AF | N | D | Box label | [345L] |
| | TLABM413BXHZZ | AF | N | D | Box label | [330L] |
| 3 | TINSE4069XHZZ | AT | N | D | Operation manual | [340L] |
| | TINSE4070XHZZ | AR | N | D | Operation manual | [345L] |
| | TINSE4108XHZZ | AG | N | D | Operation manual | [330L] |
| 4 | TLABH480AXHZZ | AD | N | D | Rapid key labels | [340L/330L] |
| | TLABH481AXHZZ | AD | N | D | Rapid key labels | [345L] |
| 5 | CPLTP3002XHB1 | AK | | E | Imaging film cartridge and label ass'y | |
| 6 | TLABH4752XHZZ | AB | | D | Film set label | |
| 7 | LPLTP3003XHSA | AH | | C | Paper tray extension | |
| 8 | PHOP-2102XHZZ | AE | | C | Original document support | |
| 9 | SPAKA490AXHZZ | AC | | D | Pad B | |
| 10 | SPAKA489AXHZZ | AC | | D | Pad A | |
| 11 | SPAKA481AXHZZ | AF | | D | Packing add.,right | |
| 12 | SPAKA480AXHZZ | AF | | D | Packing add.,left | |
| 13 | QCNW-3975XHGY | AG | | C | Telephone line cord | |
| 14 | QCNW-3976XHOW | AK | | C | Handset cord | |
| 15 | NGERH2455XHZZ | AD | | C | Imaging film gear A | |
| 16 | NGERH2456XHZZ | AC | | C | Imaging film gear B | |
| 17 | TLABM342BXHZZ | AD | N | D | Pop label | |
| 18 | SPAKP3385SCZZ | AG | | D | Vinyl cover | |
| 19 | DUNTK464BXHWH | AQ | | E | Handset | [340L] |
| | DUNTK464BXHOW | AP | | E | Handset | [345L/330L] |
| 21 | TCADZ2889XHZZ | AE | N | D | Open LCR information and registration sheet | |
| 22 | TCADZ2890XHZZ | AE | N | D | Quick setup guide | [340L] |
| | TCADZ2893XHZZ | AE | N | D | Quick setup guide | [345L] |
| | TCADZ2964XHZZ | AE | N | D | Quick setup guide | [330L] |
| 23 | PRBNN2015SCZZ | AQ | N | S | Imaging film(Initial starter film 10m) | |
| 24 | TCADZ2887XHZZ | AG | N | D | Pop card | [340L] |
| | TCADZ2892XHZZ | AG | N | D | Pop card | [345L] |
| | TCADZ2963XHZZ | AD | N | D | Pop card | [330L] |
| 25 | TCADZ2787XHZZ | AE | N | D | Reed me first sheet | |
| 26 | TCADZ2965XHZZ | AD | N | D | Fax transmission sheet | |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [7] Control PWB unit | | | | | | |
| 1 | UBATL2049SCZZ | AF | | B | Battery(CR2032T23) | [BAT1] |
| 2 | VCEAGA1EW476M | AA | | C | Capacitor(25WV 47µF) | [C1] |
| 3 | VCEAGA1HW105M | AB | | C | Capacitor(50WV 1µF) | [C2] |
| 4 | VCEAGA1EW476M | AA | | C | Capacitor(25WV 47µF) | [C3] |
| 5 | VCEAGA1HW106M | AA | | C | Capacitor(50WV 10µF) | [C4] |
| 6 | VCEAGA1HW106M | AA | | C | Capacitor(50WV 10µF) | [C5] |
| 7 | VCEAGA1HW226M | AB | | C | Capacitor(50WV 22µF) | [C6] |
| 8 | VCEAGA1HW107M | AA | | C | Capacitor(50WV 100µF) | [C7] |
| 9 | VCEAGA1EW476M | AA | | C | Capacitor(25WV 47µF) | [C8] |
| 10 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C100] |
| 11 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C103] |
| 12 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C104] |
| 13 | VCKYTV1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C105] |
| 14 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C106] |
| 15 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C107] |
| 16 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C109] |
| 17 | VCKYTV1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C110] |
| 18 | VCKYTV1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C111] |
| 19 | VCKYTV1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C112] |
| 20 | VCCCTV1HH150J | AA | | C | Capacitor(50WV 15PF) | [C113] |
| 21 | VCCCTV1HH150J | AA | | C | Capacitor(50WV 15PF) | [C117] |
| 22 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C118] |
| 23 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C120] |
| 24 | VCKYTV1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C121] |
| 25 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C122] |
| 26 | VCCCTV1HH180J | AA | | C | Capacitor(50WV 18PF) | [C123] |
| 27 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C124] |
| 28 | VCKYTV1HB103K | AB | | C | Capacitor(50WV 0.01µF) | [C125] |
| 29 | VCCSTV1HL391J | AA | | C | Capacitor(50WV 390PF) | [C126] |
| 30 | VCKYTV1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C129] |
| 31 | VCCCTV1HH150J | AA | | C | Capacitor(50WV 15PF) | [C130] |
| 32 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C131] |
| 33 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C132] |
| 34 | VCKYTV1EB104K | AA | | C | Capacitor(25WV 0.1µF) | [C135] |
| 35 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C136] |
| 36 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C137] |
| 37 | VCKYTV1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C138] |
| 38 | VCKYTV1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C140] |
| 39 | VCKYTV1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C141] |
| 40 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C142] |
| 41 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C143] |
| 42 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C145] |
| 43 | VCKYTV1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C146] |
| 44 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C149] |
| 45 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C150] |
| 46 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C151] |
| 47 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C152] |
| 48 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C153] |
| 49 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C154] |
| 50 | VCKYTV1EB104K | AA | | C | Capacitor(25WV 0.1µF) | [C156] |
| 51 | VCKYTV1HB221K | AA | | C | Capacitor(50WV 220PF) | [C157] |
| 52 | VCKYTV1HB472K | AA | | C | Capacitor(50WV 4700PF) | [C158] |
| 53 | VCKYTV1HB103K | AB | | C | Capacitor(50WV 0.01µF) | [C159] |
| 54 | VCKYTV1EB104K | AA | | C | Capacitor(25WV 0.1µF) | [C160] |
| 55 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C161] |
| 56 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C162] |
| 57 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C163] |
| 58 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C164] |
| 59 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C165] |
| 60 | VCKYTV1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C166] |
| 61 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C167] |
| 62 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C168] |
| 63 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C169] |
| 64 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C170] |
| 65 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C171] |
| 66 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C172] |
| 67 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C173] |
| 68 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C174] |
| 69 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C176] |
| 70 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C177] |
| 71 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C178] |
| 72 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C179] |
| 73 | VCKYTV1HB221K | AA | | C | Capacitor(50WV 220PF) | [C180] |
| 74 | VCKYTV1HB681K | AA | | C | Capacitor(50WV 680PF) | [C181] |
| 75 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C182] |
| 76 | VCCSTV1HL102J | AA | | C | Capacitor(50WV 1000PF) | [C183] |
| 77 | VCKYTQ1HF104Z | AA | | C | Capacitor(50WV 0.1µF) | [C184] |
| 78 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C185] |
| 79 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C186] |
| 80 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C187] |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [7] Control PWB unit | | | | | | |
| 81 | VCCCTV1HH220J | AA | | C | Capacitor(50WV 22PF) | [C188] |
| 82 | VCKYTV1EB104K | AA | | C | Capacitor(25WV 0.1µF) | [C194] |
| 83 | VCKYTV1EB104K | AA | | C | Capacitor(25WV 0.1µF) | [C196] |
| 84 | VCKYTV1CF105Z | AB | | C | Capacitor(16WV 1µF) | [C198] |
| 85 | VCKYTQ1HF104Z | AA | | C | Capacitor(50WV 0.1µF) | [C200] |
| 86 | VCKYTV1EF104Z | AA | | C | Capacitor(25WV 0.1µF) | [C201] |
| 87 | VCKYPA1HF223Z | AA | | C | Capacitor(50WV 0.022µF) | [C204] |
| 88 | QCNCM7014SC0G | AB | | C | Connector(7pin) | [CNCIS] |
| 89 | QCNCM2442SC0B | AB | | C | Conector(2pin) | [CNCSW] |
| 90 | QCNCM2575SC1D | AC | | C | Connector(14pin) | [CNLIUA] |
| 91 | QCNCM7014SC0F | AB | | C | Connector(6pin) | [CNMT] |
| 92 | QCNCM7014SC1E | AC | | C | Connector(15pin) | [CNPN] |
| 93 | QCNCM2575SC0H | AF | | C | Connector(8pin) | [CNPW] |
| 94 | QCNCM2401SC0B | AA | | C | Connector(2pin) | [CNSP] |
| 95 | QCNCM7014SC1F | AD | | C | Connector(16pin) | [CNTH] |
| 96 | VHE1N4748A/-1 | AC | | B | Zener diode(1N4748A) | [D3] |
| 97 | VHDRB705D//-1 | AD | | B | Diode(RB705D) | [D100] |
| 98 | VHD1SS355//-1 | AB | | B | Diode(1SS355) | [D101] |
| 99 | VHD1SS355//-1 | AB | | B | Diode(1SS355) | [D102] |
| 100 | VHVICPS07//-1 | AA | | B | IC protector(ICP-S07) | [FU100] |
| 101 | RH-IX2129SCZZ | AY | | B | IC(M514800C-70J) | [IC1] |
| 102 | VHIW24258S7LE | AQ | | B | IC(W24258S-70LE) | [IC3] |
| 103 | QSOCZ2051SC32 | AC | | C | IC socket(32pin) | [IC4] |
| | VHI27020FNQ0A | BN | N | B | IC,EPROM(2MB) | [IC4][340L] |
| | VHI27020FNR0A | BN | N | B | IC,EPROM(2MB) | [IC4][345L] |
| | VHI27020FPL0A | BN | N | B | IC,EPROM(2MB) | [IC4][330L] |
| 106 | VHIULN2003AN/ | AE | | B | IC(ULN2003ANS) | [IC5] |
| 107 | VHIR96CIDFC1M | BN | | B | IC(R96DFXL-CID)(Within IC6 and IC9 pair) | [IC6] |
| 108 | VHITC74HCU04F | AE | | B | IC(TC74HCU04) | [IC7] |
| 109 | VHIPST596CMT1 | AF | | B | IC(PST596CNR) | [IC8] |
| 110 | VHIR96CIDFC1M | BN | | B | IC(FC100M)(Within IC6 and IC9 pair) | [IC9] |
| 111 | VHINJM2113M-1 | AG | | B | IC(NJM2113M) | [IC10] |
| 112 | VHIHCF4053M1T | AG | | B | IC(HCF4053) | [IC11] |
| 113 | VHINJM2902M-1 | AF | | B | IC(NJM2902M) | [IC12] |
| 114 | VRS-TS2AD121J | AA | | C | Resistor(1/10W 120Ω ±5%) | [L100] |
| 115 | VRS-TS2AD000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [L101] |
| 116 | RCILZ2145XHZZ | AF | | C | Coil(Z2145) | [L102] |
| 117 | RCILZ2145XHZZ | AF | | C | Coil(Z2145) | [L103] |
| 118 | RCILZ2104SCZZ | AK | | C | Coil(Z2104) | [L104] |
| 119 | RCILZ2145XHZZ | AF | | C | Coil(Z2145) | [L105] |
| 120 | RCILZ2145XHZZ | AF | | C | Coil(Z2145) | [L106] |
| 121 | VRS-TS2AD000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [L107] |
| 122 | VHPSG206S//-1 | AG | | B | Photo transistor(SG206S) | [PI1] |
| 123 | VSRNC1402//-1 | AC | | B | Transistor(RNC1402) | [Q4] |
| 124 | VSRNC1402//-1 | AC | | B | Transistor(RNC1402) | [Q5] |
| 125 | VS2SD1858Q2-1 | AE | | B | Transistor(2SD1858) | [Q7] |
| 126 | VSRNC1402//-1 | AC | | B | Transistor(RNC1402) | [Q10] |
| 127 | VS2SA1037KS-1 | AB | | B | Transistor(2SA1037KS) | [Q100] |
| 128 | VSRNC1402//-1 | AC | | B | Transistor(RNC1402) | [Q102] |
| 129 | VSDTD114EK/-1 | AC | | B | Transistor(DTD114EK) | [Q103] |
| 130 | VS2SA1037KS-1 | AB | | B | Transistor(2SA1037KS) | [Q104] |
| 131 | VRS-RE3AA270J | AC | | C | Resistor(1W 27Ω ±5%) | [R1] |
| 132 | VRS-TS2AD103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R100] |
| 133 | VRS-TS2AD271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R102] |
| 134 | VRS-TS2AD512J | AA | | C | Resistor(1/10W 5.1KΩ ±5%) | [R103] |
| 135 | VRS-TS2AD271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R105] |
| 136 | VRS-TS2AD000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R106] |
| 137 | VRS-TS2AD000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R109] |
| 138 | VRS-TS2AD223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R110] |
| 139 | VRS-TS2AD271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R111] |
| 140 | VRS-TS2AD271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R112] |
| 141 | VRS-TS2AD103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R113] |
| 142 | VRS-TS2AD303J | AA | | C | Resistor(1/10W 30KΩ ±5%) | [R114] |
| 143 | VRS-TS2AD303J | AA | | C | Resistor(1/10W 30KΩ ±5%) | [R115] |
| 144 | VRS-TS2AD303J | AA | | C | Resistor(1/10W 30KΩ ±5%) | [R116] |
| 145 | VRS-TS2AD303J | AA | | C | Resistor(1/10W 30KΩ ±5%) | [R117] |
| 146 | VRS-TS2AD104J | AA | | C | Resistor(1/10W 100KΩ ±5%) | [R118] |
| 147 | VRS-TS2AD105J | AA | | C | Resistor(1/10W 1.0MΩ ±5%) | [R122] |
| 148 | VRS-TS2AD201J | AG | | C | Resistor(1/10W 200Ω ±5%) | [R125] |
| 149 | VRS-TS2AD121J | AA | | C | Resistor(1/10W 120Ω ±5%) | [R126] |
| 150 | VRS-TS2AD333J | AA | | C | Resistor(1/10W 33KΩ ±5%) | [R127] |
| 151 | VRS-TS2AD151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R129] |
| 152 | VRS-TS2AD151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R130] |
| 153 | VRS-TS2AD680J | AA | | C | Resistor(1/10W 68Ω ±5%) | [R131] |
| 154 | VRS-TS2AD103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R132] |
| 155 | VRS-TS2AD151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R133] |
| 156 | VRS-TS2AD562J | AA | | C | Resistor(1/10W 5.6KΩ ±5%) | [R134] |
| 157 | VRS-TS2AD271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R136] |
| 158 | VRS-TS2AD000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R137] |
| 159 | VRSTS2AD4752F | AA | | C | Resistor(1/10W 47.5KΩ ±1%) | [R139] |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [7] Control PWB unit | | | | | | |
| 160 | VRS-TS2AD000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R140] |
| 161 | VRS-TS2AD151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R142] |
| 162 | VRS-TS2AD471J | AA | | C | Resistor(1/10W 470Ω ±5%) | [R143] |
| 163 | VRS-TS2AD151J | AA | | C | Resistor(1/10W 150Ω ±5%) | [R144] |
| 164 | VRS-TS2AD201J | AG | | C | Resistor(1/10W 200Ω ±5%) | [R145] |
| 165 | VRS-TS2AD271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R146] |
| 166 | VRS-TS2AD471J | AA | | C | Resistor(1/10W 470Ω ±5%) | [R147] |
| 167 | VRS-TS2AD103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R148] |
| 168 | VRS-TS2AD303J | AA | | C | Resistor(1/10W 30KΩ ±5%) | [R149] |
| 169 | VRS-TS2AD271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R151] |
| 170 | VRS-TS2AD271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R152] |
| 171 | VRS-TS2AD102J | AA | | C | Resistor(1/10W 1KΩ ±5%) | [R153] |
| 172 | VRS-TS2AD223J | AA | | C | Resistor(1/10W 22KΩ ±5%) | [R154] |
| 173 | VRS-TS2AD3R0J | AA | | C | Resistor(1/10W 3.0Ω ±5%) | [R155] |
| 174 | VRS-TS2AD332J | AA | | C | Resistor(1/10W 3.3KΩ ±5%) | [R156] |
| 175 | VRS-TS2AD303J | AA | | C | Resistor(1/10W 30KΩ ±5%) | [R157] |
| 176 | VRS-TS2AD471J | AA | | C | Resistor(1/10W 470Ω ±5%) | [R158] |
| 177 | VRS-TS2AD303J | AA | | C | Resistor(1/10W 30KΩ ±5%) | [R159] |
| 178 | VRS-TS2AD303J | AA | | C | Resistor(1/10W 30KΩ ±5%) | [R160] |
| 179 | VRS-TS2AD471J | AA | | C | Resistor(1/10W 470Ω ±5%) | [R161] |
| 180 | VRS-TS2AD103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R162] |
| 181 | VRS-TS2AD271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R163] |
| 182 | VRS-TS2AD203J | AA | | C | Resistor(1/10W 20KΩ ±5%) | [R164] |
| 183 | VRS-TS2AD474J | AA | | C | Resistor(1/10W 470KΩ ±5%) | [R165] |
| 184 | VRS-TS2AD104J | AA | | C | Resistor(1/10W 100KΩ ±5%) | [R166] |
| 185 | VRS-TS2AD303J | AA | | C | Resistor(1/10W 30KΩ ±5%) | [R167] |
| 186 | VRS-TS2AD102J | AA | | C | Resistor(1/10W 1KΩ ±5%) | [R168] |
| 187 | VRS-TS2AD471J | AA | | C | Resistor(1/10W 470Ω ±5%) | [R169] |
| 188 | VRS-TS2AD302J | AA | | C | Resistor(1/10W 3KΩ ±5%) | [R170] |
| 189 | VRS-TS2AD104J | AA | | C | Resistor(1/10W 100KΩ ±5%) | [R171] |
| 190 | VRS-TS2AD224J | AA | | C | Resistor(1/10W 220KΩ ±5%) | [R172] |
| 191 | VRS-TS2AD203J | AA | | C | Resistor(1/10W 20KΩ ±5%) | [R173] |
| 192 | VRS-TS2AD102J | AA | | C | Resistor(1/10W 1KΩ ±5%) | [R174] |
| 193 | VRS-TS2AD203J | AA | | C | Resistor(1/10W 20KΩ ±5%) | [R175] |
| 194 | VRS-TS2AD243J | AA | | C | Resistor(1/10W 24KΩ ±5%) | [R176] |
| 195 | VRS-TS2AD132J | AA | | C | Resistor(1/10W 1.3KΩ ±5%) | [R177] |
| 196 | VRS-TS2AD105J | AA | | C | Resistor(1/10W 1MΩ ±5%) | [R178] |
| 197 | VRS-TS2AD512J | AA | | C | Resistor(1/10W 5.1KΩ ±5%) | [R179] |
| 198 | VRS-TS2AD333J | AA | | C | Resistor(1/10W 33KΩ ±5%) | [R180] |
| 199 | VRS-TS2AD333J | AA | | C | Resistor(1/10W 33KΩ ±5%) | [R181] |
| 200 | VCKYTV1HB102K | AA | | C | Capacitor(50WV 1000PF) | [R182] |
| 201 | VRS-TS2AD471J | AA | | C | Resistor(1/10W 470Ω ±5%) | [R185] |
| 202 | VRS-TS2AD303J | AA | | C | Resistor(1/10W 30KΩ ±5%) | [R186] |
| 203 | VRS-TS2AD303J | AA | | C | Resistor(1/10W 30KΩ ±5%) | [R187] |
| 204 | VRS-TS2AD471J | AA | | C | Resistor(1/10W 470Ω ±5%) | [R188] |
| 205 | VRS-TS2AD103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R189] |
| 206 | VRS-TS2AD271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R190] |
| 207 | VRS-TS2AD271J | AA | | C | Resistor(1/10W 270Ω ±5%) | [R191] |
| 208 | VRS-TS2AD102J | AA | | C | Resistor(1/10W 1KΩ ±5%) | [R192] |
| 209 | VRS-TS2AD102J | AA | | C | Resistor(1/10W 1KΩ ±5%) | [R194] |
| 210 | VRS-TS2AD433J | AA | | C | Resistor(1/10W 43KΩ ±5%) | [R195] |
| 211 | VRS-TS2AD152J | AA | | C | Resistor(1/10W 1.5KΩ ±5%) | [R196] |
| 212 | VRS-TS2AD102J | AA | | C | Resistor(1/10W 1KΩ ±5%) | [R197] |
| 213 | VRS-TS2AD224J | AA | | C | Resistor(1/10W 220KΩ ±5%) | [R198] |
| 214 | VRSTS2AD1742F | AA | | C | Resistor(1/10W 17.4KΩ ±1%) | [R199] |
| 215 | VRS-TS2AD203J | AA | | C | Resistor(1/10W 20KΩ ±5%) | [R200] |
| 216 | VRS-TS2AD103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R201] |
| 217 | VRS-TS2AD303J | AA | | C | Resistor(1/10W 30KΩ ±5%) | [R202] |
| 218 | VRSTS2AD8662F | AA | | C | Resistor(1/10W 86.6KΩ ±1%) | [R203] |
| 219 | VRS-TS2AD201J | AG | | C | Resistor(1/10W 200Ω ±5%) | [R204] |
| 220 | VRS-TS2AD303J | AA | | C | Resistor(1/10W 30KΩ ±5%) | [R205] |
| 221 | VRS-TS2AD333J | AA | | C | Resistor(1/10W 33KΩ ±5%) | [R206] |
| 222 | VRS-TS2AD512J | AA | | C | Resistor(1/10W 5.1KΩ ±5%) | [R207] |
| 223 | VRS-TS2AD203J | AA | | C | Resistor(1/10W 20KΩ ±5%) | [R208] |
| 224 | VRS-TS2AD333J | AA | | C | Resistor(1/10W 33KΩ ±5%) | [R209] |
| 225 | VRS-TS2AD224J | AA | | C | Resistor(1/10W 220KΩ ±5%) | [R210] |
| 226 | VRS-TS2AD106J | AA | | C | Resistor(1/10W 10MΩ ±5%) | [R211] |
| 227 | VRS-TS2AD121J | AA | | C | Resistor(1/10W 120Ω ±5%) | [R212] |
| 228 | VRS-TS2AD222J | AA | | C | Resistor(1/10W 2.2KΩ ±5%) | [R213] |
| 229 | VRS-TS2AD000J | AA | | C | Resistor(1/10W 0Ω ±5%) | [R214] |
| 230 | VRS-TS2AD203J | AA | | C | Resistor(1/10W 20KΩ ±5%) | [R215] |
| 231 | VRS-TS2AD103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R216] |
| 232 | VRSTS2AD8662F | AA | | C | Resistor(1/10W 86.6KΩ ±1%) | [R217] |
| 233 | VRS-TS2AD332J | AA | | C | Resistor(1/10W 3.3KΩ ±5%) | [R218] |
| 234 | VRS-TS2AD103J | AA | | C | Resistor(1/10W 10KΩ ±5%) | [R219] |
| 235 | VRS-TS2AD302J | AA | | C | Resistor(1/10W 3KΩ ±5%) | [R220] |
| 236 | VRS-TS2AD221J | AA | | C | Resistor(1/10W 220Ω ±5%) | [R221] |
| 237 | VRS-TS2AD303J | AA | | C | Resistor(1/10W 30KΩ ±5%) | [R225] |
| 238 | VRS-TS2AD101J | AA | | C | Resistor(1/10W 100Ω ±5%) | [R229] |
| 239 | RR-TZ3017SCZZ | AC | | C | Block resistor(270Ωx4) | [RA1] |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [7] Control PWB unit | | | | | | |
| 240 | RR-TZ3018SCZZ | AC | | C | Block resistor(470Ωx4) | [RA2] |
| 241 | RR-TZ3017SCZZ | AC | | C | Block resistor(270Ωx4) | [RA3] |
| 242 | RR-TZ3017SCZZ | AC | | C | Block resistor(270Ωx4) | [RA4] |
| 243 | RR-TZ3017SCZZ | AC | | C | Block resistor(270Ωx4) | [RA5] |
| 244 | RR-TZ3017SCZZ | AC | | C | Block resistor(270Ωx4) | [RA6] |
| 245 | RR-TZ3018SCZZ | AC | | C | Block resistor(470Ωx4) | [RA7] |
| 246 | RR-TZ3017SCZZ | AC | | C | Block resistor(270Ωx4) | [RA8] |
| 247 | RR-TZ3017SCZZ | AC | | C | Block resistor(270Ωx4) | [RA9] |
| 248 | RR-TZ3017SCZZ | AC | | C | Block resistor(270Ωx4) | [RA10] |
| 249 | RR-TZ3017SCZZ | AC | | C | Block resistor(270Ωx4) | [RA11] |
| 250 | RR-TZ3018SCZZ | AC | | C | Block resistor(470Ωx4) | [RA12] |
| 251 | RR-TZ3018SCZZ | AC | | C | Block resistor(470Ωx4) | [RA13] |
| 252 | RR-TZ3018SCZZ | AC | | C | Block resistor(470Ωx4) | [RA14] |
| 253 | RRLYD3130SCZZ | AN | | B | Relay | [RY1] |
| 254 | QSW-M2259XHZZ | AF | | B | Cover switch | [SW1] |
| 255 | RCRSQ1005LCZZ | AE | | B | Crystal(19.66MHz) | [X1] |
| 256 | RCRSB2122SCZZ | AH | | B | Crystal(24.00014MHz) | [X2] |
| 257 | RCRSB0297AFZZ | AD | | B | Crystal(32.768KHz) | [X3] |
| | (Unit) | | | | | |
| 901 | DCEKC882MXHZZ | BX | N | E | Control PWB unit(Within ROM) | [340L] |
| | DCEKC883MXHZZ | BX | N | E | Control PWB unit(Within ROM) | [345L] |
| | DCEKC785NXHZZ | BZ | N | E | Control PWB unit(Within ROM) | [330L] |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| [8] TEL-LIU PWB unit | | | | | | |
| 1 | VHVRA391PV6-1 | AE | | B | Varistor(RA391PV6) | [AR1] |
| 2 | VCEAGA1HW475M | AA | | C | Capacitor(50WV 4.7μF) | [C1] |
| 3 | VCKYPA1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C2] |
| 4 | RC-FZ3024SCZZ | AG | | C | Capacitor(250WV 0.82μF) | [C4] |
| 5 | VCKYPA1HB103K | AA | | C | Capacitor(50WV 0.01μF) | [C5] |
| 6 | VCQYNA1HM333K | AA | | C | Capacitor(50WV 0.033μF) | [C6] |
| 7 | VCKYPA1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C7] |
| 8 | VCKYPA1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C8] |
| 9 | VCEAGA1HW225M | AA | | C | Capacitor(50WV 2.2μF) | [C9] |
| 10 | VCEAGA1HW475M | AA | | C | Capacitor(50WV 4.7μF) | [C10] |
| 11 | VCKYPA1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C11] |
| 12 | VCKYPA1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C12] |
| 13 | VCKYPA1HB221K | AA | | C | Capacitor(50WV 220PF) | [C13] |
| 14 | VCKYPA1HB102K | AA | | C | Capacitor(50WV 1000PF) | [C14] |
| 15 | VCKYPA1HF223Z | AA | | C | Capacitor(50WV 0.022μF) | [C15] |
| 16 | VCKYPA1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C16] |
| 17 | VCEAGA1HW226M | AB | | C | Capacitor(50WV 22μF) | [C17] |
| 18 | VCKYPA1HB222K | AA | | C | Capacitor(50WV 2200PF) | [C18] |
| 19 | VCEAGA1HW475M | AA | | C | Capacitor(50WV 4.7μF) | [C20] |
| 20 | VCEAGA1HW475M | AA | | C | Capacitor(50WV 4.7μF) | [C22] |
| 21 | RRLYD3221XHZZ | AN | N | B | Relay | [CML] |
| 22 | QCNCW2509SC1D | AF | | C | Connector(14pin) | [CNLIU] |
| 23 | VHDDSS133//-1 | AA | | B | Diode(1SS133) | [D1] |
| 24 | VHDDSS133//-1 | AA | | B | Diode(1SS133) | [D2] |
| 25 | QSW-Z2263XHZZ | AG | | B | Hook switch | [HOOK SW] |
| 26 | VHINJM2904D-1 | AG | | B | IC(NJM2904D) | [IC1] |
| ⚠ 27 | RFILF2126XHZZ | AE | N | C | Coil(FL05RD600ET) | [L4] |
| 28 | QJAKZ2069SCBB | AG | | C | Jack | [MJ1/2] |
| 29 | QJAKZ2070SC0D | AF | | C | Jack | [MJTEL] |
| 30 | VHPSG206S//-1 | AG | | B | Photo transistor(SG206S) | [P-E] |
| 31 | VHPSG206S//-1 | AG | | B | Photo transistor(SG206S) | [P-IN] |
| 32 | VHPPC814X//-1 | AE | | B | Photo transistor(PC814X) | [PC1] |
| 33 | VHPTLP521-1BL | AE | | B | Photo coupler(TLP521) | [PC2] |
| 34 | VSDTC114ES/-1 | AB | | B | Transistor(DTC114ES) | [Q1] |
| 35 | VS2SC1815GR-1 | AB | | B | Transistor(2SC1815GR) | [Q2] |
| 36 | VSDTC114ES/-1 | AB | | B | Transistor(DTC114ES) | [Q3] |
| 37 | VRD-HT2EY910J | AA | | C | Resistor(1/4W 91Ω ±5%) | [R2] |
| 38 | VRD-HT2EY300J | AA | | C | Resistor(1/4W 30Ω ±5%) | [R3] |
| 39 | VRD-HT2EY223J | AA | | C | Resistor(1/4W 22KΩ ±5%) | [R4] |
| 40 | VRD-HT2HY223J | AA | | C | Resistor(1/2W 22KΩ ±5%) | [R5] |
| 41 | VRD-HT2EY152J | AA | | C | Resistor(1/4W 1.5KΩ ±5%) | [R7] |
| 42 | VRD-HT2EY102J | AA | | C | Resistor(1/4W 1.0KΩ ±5%) | [R8] |
| 43 | VRD-HT2EY473J | AA | | C | Resistor(1/4W 47KΩ ±5%) | [R9] |
| 44 | VRD-HT2EY152J | AA | | C | Resistor(1/4W 1.5KΩ ±5%) | [R10] |
| 45 | VRD-HT2EY332J | AA | | C | Resistor(1/4W 3.3KΩ ±5%) | [R11] |
| 46 | VRD-HT2EY151J | AA | | C | Resistor(1/4W 150Ω ±5%) | [R12] |
| 47 | VRD-HT2EY332J | AA | | C | Resistor(1/4W 3.3KΩ ±5%) | [R14] |
| 48 | VRD-HT2EY103J | AA | | C | Resistor(1/4W 10KΩ ±5%) | [R15] |
| 49 | VRD-HT2EY102J | AA | | C | Resistor(1/4W 1.0KΩ ±5%) | [R16] |
| 50 | VRD-HT2EY103J | AA | | C | Resistor(1/4W 10KΩ ±5%) | [R17] |
| 51 | VRD-HT2EY103J | AA | | C | Resistor(1/4W 10KΩ ±5%) | [R18] |
| 52 | VRD-HT2EY103J | AA | | C | Resistor(1/4W 10KΩ ±5%) | [R19] |

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART RANK | DESCRIPTION | |
|---|---|---|---|---|---|---|
| [8] TEL-LIU PWB unit | | | | | | |
| 53 | VRD-HT2EY101J | AA | | C | Resistor(1/4W 100Ω ±5%) | [R20] |
| 54 | VRD-HT2EY621J | AA | | C | Resistor(1/4W 620Ω ±5%) | [R21] |
| 55 | VRD-HT2EY102J | AA | | C | Resistor(1/4W 1.0KΩ ±5%) | [R22] |
| 56 | VRD-HT2EY153J | AA | | C | Resistor(1/4W 15KΩ ±5%) | [R23] |
| 57 | RTRNZ2128XH01 | AP | | B | Transformer(Z2128) | [T1] |
| 58 | VHVERZV5D471/ | AC | | B | Varistor(ERZVA5D471) | [VA1] |
| 59 | VHVERZV5D471/ | AC | | B | Varistor(ERZVA5D471) | [VA2] |
| 60 | VHEHZ2C1///-1 | AA | | B | Zener diode(HZ2C1) | [ZD1] |
| 61 | VHEHZ2C1///-1 | AA | | B | Zener diode(HZ2C1) | [ZD2] |
| 62 | VHEHZ27-1//-1 | AB | | B | Zener diode(HZ27C-1TA) | [ZD3] |
| 63 | VHEHZ2C1///-1 | AA | | B | Zener diode(HZ2C1-TA) | [ZD4] |
| 64 | VHEHZ2C1///-1 | AA | | B | Zener diode(HZ2C1-TA) | [ZD5] |
| | (Unit) | | | | | |
| 901 | DCEKL451BXH04 | BD | N | E | TEL-Liu PWB unit | |
| [9] Power supply PWB unit | | | | | | |
| 1 | 0CBUGFM224KR/ | AF | | C | Capacitor(RE224-C) | [C1] |
| 2 | 0CBUGAL151SM/ | AL | | C | Capacitor(KMF200VB-150M 18x25) | [C2] |
| 3 | 0CBUGZ1182ZZ/ | AD | | C | Capacitor(DE1005-SL331J1K) | [C3] |
| 4 | 0CBUGFF222BQ/ | AC | | C | Capacitor(AMZ-222K50) | [C4] |
| 5 | 0CBUGFF472BQ/ | AC | | C | Capacitor(AMZ-472K50) | [C5] |
| 6 | 0CBUGCM472BJ/ | AF | | C | Capacitor(DE1610-E472M-KX) | [C7] |
| 7 | 0CBUGAE331TS/ | AH | | C | Capacitor(LKJ35VB330(M)) | [C8] |
| 8 | 0CBUGAC331TR/ | AF | | C | Capacitor(LXJ16VB330(M)) | [C10] |
| 9 | 0CBUGCD104AP/ | AD | | C | Capacitor(DD306-F104Z25) | [C11] |
| 10 | 0CBUGFF104BQ/ | AD | | C | Capacitor(AMZ-104K50) | [C12] |
| 11 | 0CBUGCS152AC/ | AD | | C | Capacitor(DD07E152P500V) | [C13] |
| 12 | 0CBUGCD104AP/ | AD | | C | Capacitor(DD306-F104Z25) | [C14] |
| 13 | 0CBUGFF102BQ/ | AD | | C | Capacitor(AMZ-102K50) | [C17] |
| 14 | 0CBUGFF332BQ/ | AD | | C | Capacitor(AMZ-332K50) | [C20] |
| 15 | 0CBPCZ0273ZZ/ | AH | | C | Connector(IMSA-9110S-08L) | [CN1] |
| 16 | 0CBPKZ0194ZZ/ | AC | | C | Base post assy(B 2P3-VH) | [CN2] |
| 17 | 0CBUBC0125DK/ | AD | | B | Diode(ERA15-06) | [D1] |
| 18 | 0CBUBC0125DK/ | AD | | B | Diode(ERA15-06) | [D2] |
| 19 | 0CBUBC0125DK/ | AD | | B | Diode(ERA15-06) | [D3] |
| 20 | 0CBUBC0125DK/ | AD | | B | Diode(ERA15-06) | [D4] |
| 21 | 0CBUBA0044AL/ | AD | | B | Diode(1SS254) | [D5] |
| 22 | 0CBUBC0336AZ/ | AL | | B | Diode(S3L20U-4004P15) | [D7] |
| 23 | 0CBUBC0302AZ/ | AE | | B | Diode(SR140) | [D8] |
| 24 | 0CBPJCSX2501/ | AH | | A | Current fuse(23702.5 ME600) | [F1] |
| 25 | 0CBPZZ0906ZZ/ | AH | | A | Circuit protect chip(CCP2E100) | [F3] |
| 26 | 0CBUCB0196AZ/ | AR | | B | IC(BA178M05T) | [IC1] |
| 27 | 0CBUKZ0790ZZ/ | AK | | C | Filter(ELF15N005A) | [L1] |
| 28 | 0CBLRZ6567ZP/ | AQ | | C | Heat sink | [MT1] |
| 29 | 0CBLRZ6562ZP/ | AQ | | C | Heat sink | [MT2] |
| 30 | 0CBUDC0062MZ/ | AG | | B | Photo coupler(PS2501-1L) | [PC1] |
| 31 | 0CBUAG0161BZ/ | AQ | | B | FET(FS5KM-14) | [Q1] |
| 32 | 0CBUAC0264AZ/ | AD | | B | Transistor(2SC1741AS QR) | [Q2] |
| 33 | 0CBUAC0034EZ/ | AE | | B | Transistor(2SC1740S) | [Q3] |
| 34 | 0CBUAC0034EZ/ | AE | | B | Transistor(2SC1740S) | [Q4] |
| 35 | 0CBUEEC105CF/ | AC | | C | Resistor(RD50SS-105J) | [R1] |
| 36 | 0CBUEEB824CS/ | AC | | C | Resistor(RD16S-824J) | [R2] |
| 37 | 0CBUEEB184CS/ | AC | | C | Resistor(RD16S 184J) | [R3] |
| 38 | 0CBUEEB331CS/ | AC | | C | Resistor(RD16S 331J) | [R4] |
| 39 | 0CBUEEB432CS/ | AC | | C | Resistor(RD16S 432J) | [R5] |
| 40 | 0CBUEEB563CS/ | AC | | C | Resistor(RD16S 563J) | [R6] |
| 41 | 0CBUEEB181CS/ | AC | | C | Resistor(RD16S 181J) | [R7] |
| 42 | 0CBUEEB473CS/ | AC | | C | Resistor(RD16S 473J) | [R8] |
| 43 | 0CBUEEB471CS/ | AC | | C | Resistor(RD16S 471J) | [R9] |
| 44 | 0CBUEFDR15DB/ | AE | | C | Resistor(RSMF1TBR15G) | [R10] |
| 45 | 0CBUEEB271CS/ | AC | | C | Resistor(RD16S 271J) | [R13] |
| 46 | 0CBUEEB152CS/ | AC | | C | Resistor(RD16S 152J) | [R14] |
| 47 | 0CBUEEB334CS/ | AC | | C | Resistor(RD16S 334J) | [R15] |
| 48 | 0CBUEEB682CS/ | AC | | C | Resistor(RD16S 682J) | [R16] |
| 49 | 0CBUEEB222CS/ | AC | | C | Resistor(RD16S 222J) | [R17] |
| 50 | 0CBUEEB182CS/ | AC | | C | Resistor(RD16S-182J) | [R18] |
| 51 | 0CBUEEB332CF/ | AC | | C | Resistor(RD50SS 332J) | [R21] |
| 52 | 0CBUEEB332CF/ | AC | | C | Resistor(RD50SS 332J) | [R22] |
| 53 | 0CBUEEB101CS/ | AC | | C | Resistor(RD16S 101J) | [R23] |
| 54 | 0CB829585033/ | BE | | B | Transformer(RTTN103-KTT) | [T1] |
| 55 | 0CBUEZ0528ZZ/ | AD | | B | Varistor(ERZV07D241-CS) | [V1] |
| 56 | 0CBUFBA471CB/ | AD | | B | Variable resistor(EVN DJA A03 BQ2(471)) | [VR1] |
| 57 | 0CBUBDBE4R3C/ | AD | | B | Zener diode(RD4.3ESAB2) | [ZD2] |
| 58 | 0CBUBDAE300D/ | AD | | B | Zener diode(RD30FB3) | [ZD4] |
| 59 | 0CBUBDAC6R2C/ | AC | | B | Zener diode(RD6.2ESAB2) | [ZD5] |
| | (Unit) | | | | | |
| ⚠ 901 | RDENT2134XHZZ | BG | | E | Power supply PWB unit | |

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| CGERH2459XH01 | 5-1 | AM | | C |
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| CLEVP2299XH01 | 5-6 | AC | | C |
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| GCABA2324XHZV | 3-1 | AR | N | D |
| GCABA2324XHZY | 3-1 | AM | N | D |
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| GCABB2325XHSG | 1-14 | AZ | | D |
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| LPLTP2998XHZZ | 2-26 | AF | | C |
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| MLEVP2297XHZZ | 1-4 | AC | | C |
| MLEVP2301XHZZ | 5-15 | AB | | C |
| MLEVP2302XHZZ | 1-84 | AC | | C |
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| NGERH2442XHZZ | 2-20 | AC | | C |
| NGERH2445XHZZ | 1-26 | AB | | C |
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| NGERH2446XHZZ | 5-19 | AB | | C |
| NGERH2447XHZZ | 5-20 | AB | | C |
| NGERH2448XHZZ | 5-21 | AB | | C |
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| NGERH2451XHZZ | 5-24 | AB | | C |
| NGERH2452XHZZ | 5-25 | AB | | C |
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| TCADZ2890XHZZ | 6-22 | AE | N | D |
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| TINSE4070XHZZ | 6-3 | AR | N | D |
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|---|---|---|---|---|
| VRD-HT2EY103J | 8-51 | AA | | C |
| 〃 | 8-52 | AA | | C |
| VRD-HT2EY151J | 8-46 | AA | | C |
| VRD-HT2EY152J | 8-41 | AA | | C |
| 〃 | 8-44 | AA | | C |
| VRD-HT2EY153J | 8-56 | AA | | C |
| VRD-HT2EY223J | 8-39 | AA | | C |
| VRD-HT2EY300J | 8-38 | AA | | C |
| VRD-HT2EY332J | 8-45 | AA | | C |
| 〃 | 8-47 | AA | | C |
| VRD-HT2EY473J | 8-43 | AA | | C |
| VRD-HT2EY621J | 8-54 | AA | | C |
| VRD-HT2EY910J | 8-37 | AA | | C |
| VRD-HT2HY223J | 8-40 | AA | | C |
| VRS-RE3AA270J | 7-131 | AC | | C |
| VRS-TS2AD000J | 7-115 | AA | | C |
| 〃 | 7-121 | AA | | C |
| 〃 | 7-136 | AA | | C |
| 〃 | 7-137 | AA | | C |
| 〃 | 7-158 | AA | | C |
| 〃 | 7-160 | AA | | C |
| 〃 | 7-229 | AA | | C |
| VRS-TS2AD101J | 7-238 | AA | | C |
| VRS-TS2AD102J | 7-171 | AA | | C |
| 〃 | 7-186 | AA | | C |
| 〃 | 7-192 | AA | | C |
| 〃 | 7-208 | AA | | C |
| 〃 | 7-209 | AA | | C |
| 〃 | 7-212 | AA | | C |
| VRS-TS2AD103J | 7-132 | AA | | C |
| 〃 | 7-141 | AA | | C |
| 〃 | 7-154 | AA | | C |
| 〃 | 7-167 | AA | | C |
| 〃 | 7-180 | AA | | C |
| 〃 | 7-205 | AA | | C |
| 〃 | 7-216 | AA | | C |
| 〃 | 7-231 | AA | | C |
| 〃 | 7-234 | AA | | C |
| VRS-TS2AD104J | 7-146 | AA | | C |
| 〃 | 7-184 | AA | | C |
| 〃 | 7-189 | AA | | C |
| VRS-TS2AD105J | 7-147 | AA | | C |
| 〃 | 7-196 | AA | | C |
| VRS-TS2AD106J | 7-226 | AA | | C |
| VRS-TS2AD121J | 7-114 | AA | | C |
| 〃 | 7-149 | AA | | C |
| 〃 | 7-227 | AA | | C |
| VRS-TS2AD132J | 7-195 | AA | | C |
| VRS-TS2AD151J | 7-151 | AA | | C |
| 〃 | 7-152 | AA | | C |
| 〃 | 7-155 | AA | | C |
| 〃 | 7-161 | AA | | C |
| 〃 | 7-163 | AA | | C |
| VRS-TS2AD152J | 7-211 | AA | | C |
| VRS-TS2AD201J | 7-148 | AG | | C |
| 〃 | 7-164 | AG | | C |
| 〃 | 7-219 | AG | | C |
| VRS-TS2AD203J | 7-182 | AA | | C |
| 〃 | 7-191 | AA | | C |
| 〃 | 7-193 | AA | | C |
| 〃 | 7-215 | AA | | C |
| 〃 | 7-223 | AA | | C |
| 〃 | 7-230 | AA | | C |
| VRS-TS2AD221J | 7-236 | AA | | C |
| VRS-TS2AD222J | 7-228 | AA | | C |
| VRS-TS2AD223J | 7-138 | AA | | C |
| 〃 | 7-172 | AA | | C |
| VRS-TS2AD224J | 7-190 | AA | | C |
| 〃 | 7-213 | AA | | C |
| 〃 | 7-225 | AA | | C |
| VRS-TS2AD243J | 7-194 | AA | | C |
| VRS-TS2AD271J | 7-133 | AA | | C |
| 〃 | 7-135 | AA | | C |
| 〃 | 7-139 | AA | | C |
| 〃 | 7-140 | AA | | C |
| 〃 | 7-157 | AA | | C |
| 〃 | 7-165 | AA | | C |
| 〃 | 7-169 | AA | | C |
| 〃 | 7-170 | AA | | C |
| 〃 | 7-181 | AA | | C |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| VRS-TS2AD271J | 7-206 | AA | | C |
| 〃 | 7-207 | AA | | C |
| VRS-TS2AD3R0J | 7-173 | AA | | C |
| VRS-TS2AD302J | 7-188 | AA | | C |
| 〃 | 7-235 | AA | | C |
| VRS-TS2AD303J | 7-142 | AA | | C |
| 〃 | 7-143 | AA | | C |
| 〃 | 7-144 | AA | | C |
| 〃 | 7-145 | AA | | C |
| 〃 | 7-168 | AA | | C |
| 〃 | 7-175 | AA | | C |
| 〃 | 7-177 | AA | | C |
| 〃 | 7-178 | AA | | C |
| 〃 | 7-185 | AA | | C |
| 〃 | 7-202 | AA | | C |
| 〃 | 7-203 | AA | | C |
| 〃 | 7-217 | AA | | C |
| 〃 | 7-220 | AA | | C |
| 〃 | 7-237 | AA | | C |
| VRS-TS2AD332J | 7-174 | AA | | C |
| 〃 | 7-233 | AA | | C |
| VRS-TS2AD333J | 7-150 | AA | | C |
| 〃 | 7-198 | AA | | C |
| 〃 | 7-199 | AA | | C |
| 〃 | 7-221 | AA | | C |
| 〃 | 7-224 | AA | | C |
| VRS-TS2AD433J | 7-210 | AA | | C |
| VRS-TS2AD471J | 7-162 | AA | | C |
| 〃 | 7-166 | AA | | C |
| 〃 | 7-176 | AA | | C |
| 〃 | 7-179 | AA | | C |
| 〃 | 7-187 | AA | | C |
| 〃 | 7-201 | AA | | C |
| 〃 | 7-204 | AA | | C |
| VRS-TS2AD474J | 7-183 | AA | | C |
| VRS-TS2AD512J | 7-134 | AA | | C |
| 〃 | 7-197 | AA | | C |
| 〃 | 7-222 | AA | | C |
| VRS-TS2AD562J | 7-156 | AA | | C |
| VRS-TS2AD680J | 7-153 | AA | | C |
| VRSTS2AD1742F | 7-214 | AA | | C |
| VRSTS2AD4752F | 7-159 | AA | | C |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| VRSTS2AD8662F | 7-218 | AA | | C |
| 〃 | 7-232 | AA | | C |
| VSDTC114ES/-1 | 8-34 | AB | | B |
| 〃 | 8-36 | AB | | B |
| VSDTD114EK/-1 | 7-129 | AC | | B |
| VSRNC1402//-1 | 7-123 | AC | | B |
| 〃 | 7-124 | AC | | B |
| 〃 | 7-126 | AC | | B |
| 〃 | 7-128 | AC | | B |
| VS2SA1037KS-1 | 7-127 | AB | | B |
| 〃 | 7-130 | AB | | B |
| VS2SC1815GR-1 | 8-35 | AB | | B |
| VS2SD1858Q2-1 | 7-125 | AE | | B |
| [X] | | | | |
| XBBSD30P06000 | 1-B3 | AA | | C |
| XBPSN40P06K00 | 1-B4 | AA | | C |
| XEBSD20P06000 | 3-B1 | AA | | C |
| XEBSD30P08000 | 1-B7 | AA | | C |
| XEBSD30P10000 | 1-B2 | AA | | C |
| 〃 | 2-B2 | AA | | C |
| 〃 | 5-B2 | AA | | C |
| XHBSD30P05000 | 1-B5 | AA | | C |
| [0] | | | | |
| 0CBLRZ6562ZP/ | 9-29 | AQ | | C |
| 0CBLRZ6567ZP/ | 9-28 | AQ | | C |
| 0CBPCZ0273ZZ/ | 9-15 | AH | | C |
| 0CBPJCSX2501/ | 9-24 | AH | | A |
| 0CBPKZ0194ZZ/ | 9-16 | AC | | C |
| 0CBPZZ0906ZZ/ | 9-25 | AH | | A |
| 0CBUAC0034EZ/ | 9-33 | AE | | B |
| 〃 | 9-34 | AE | | B |
| 0CBUAC0264AZ/ | 9-32 | AD | | B |
| 0CBUAG0161BZ/ | 9-31 | AQ | | B |
| 0CBUBA0044AL/ | 9-21 | AD | | B |
| 0CBUBC0125DK/ | 9-17 | AD | | B |
| 〃 | 9-18 | AD | | B |
| 〃 | 9-19 | AD | | B |
| 〃 | 9-20 | AD | | B |
| 0CBUBC0302AZ/ | 9-23 | AE | | B |
| 0CBUBC0336AZ/ | 9-22 | AL | | B |
| 0CBUBDAC6R2C/ | 9-59 | AC | | B |
| 0CBUBDAE300D/ | 9-58 | AD | | B |

| PARTS CODE | No. | PRICE RANK | NEW MARK | PART RANK |
|---|---|---|---|---|
| 0CBUBDBE4R3C/ | 9-57 | AD | | B |
| 0CBUCB0196AZ/ | 9-26 | AR | | B |
| 0CBUDC0062MZ/ | 9-30 | AG | | B |
| 0CBUEEB101CS/ | 9-53 | AC | | C |
| 0CBUEEB152CS/ | 9-46 | AC | | C |
| 0CBUEEB181CS/ | 9-41 | AC | | C |
| 0CBUEEB182CS/ | 9-50 | AC | | C |
| 0CBUEEB184CS/ | 9-37 | AC | | C |
| 0CBUEEB222CS/ | 9-49 | AC | | C |
| 0CBUEEB271CS/ | 9-45 | AC | | C |
| 0CBUEEB331CS/ | 9-38 | AC | | C |
| 0CBUEEB332CF/ | 9-51 | AC | | C |
| 〃 | 9-52 | AC | | C |
| 0CBUEEB334CS/ | 9-47 | AC | | C |
| 0CBUEEB432CS/ | 9-39 | AC | | C |
| 0CBUEEB471CS/ | 9-43 | AC | | C |
| 0CBUEEB473CS/ | 9-42 | AC | | C |
| 0CBUEEB563CS/ | 9-40 | AC | | C |
| 0CBUEEB682CS/ | 9-48 | AC | | C |
| 0CBUEEB824CS/ | 9-36 | AC | | C |
| 0CBUEEC105CF/ | 9-35 | AC | | C |
| 0CBUEFDR15DB/ | 9-44 | AE | | C |
| 0CBUEZ0528ZZ/ | 9-55 | AD | | B |
| 0CBUFBA471CB/ | 9-56 | AD | | B |
| 0CBUGAC331TR/ | 9-8 | AF | | C |
| 0CBUGAE331TS/ | 9-7 | AH | | C |
| 0CBUGAL151SM/ | 9-2 | AL | | C |
| 0CBUGCD104AP/ | 9-9 | AD | | C |
| 〃 | 9-12 | AD | | C |
| 0CBUGCM472BJ/ | 9-6 | AF | | C |
| 0CBUGCS152AC/ | 9-11 | AD | | C |
| 0CBUGFF102BQ/ | 9-13 | AD | | C |
| 0CBUGFF104BQ/ | 9-10 | AD | | C |
| 0CBUGFF222BQ/ | 9-4 | AC | | C |
| 0CBUGFF332BQ/ | 9-14 | AD | | C |
| 0CBUGFF472BQ/ | 9-5 | AC | | C |
| 0CBUGFM224KR/ | 9-1 | AF | | C |
| 0CBUGZ1182ZZ/ | 9-3 | AD | | C |
| 0CBUKZ0790ZZ/ | 9-27 | AK | | C |
| 0CB829585033/ | 9-54 | BE | | B |
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